American Aviation

The Independent Voice of American Aeronautics

MAY 1, 1946

Non-Scheduled Regulation

EVEN IN AN industry accustomed to the spectacular, the advent of several hundred non-scheduled commercial operators since V-J Day has been an astonishing phenomenon.

Using descriptive and imaginative names, the new operators range all the way from one transport airplane to sizeable fleets; from exclusive cargo operations to combination cargo and passenger, or to exclusive passenger service; from intrastate passenger service to flexible operations from any point to any other point. It is a highly fluid development for the most part, utilizing the skills and training of war veterans.

Fortnightly Review

In a broad sense this sudden upsurge of air services is a healthy sign that everything is normal in the United States. Private enterprise isn't dead. Nowhere else in the world could one find this spontaneous and energetic demonstration of an alert and progressive people. Most of the newcomers are risking their life savings in the gamble to prove themselves capable of winning places in aviation. Whatever the hazards and whatever its effect on the existing air transport economy, at least this new rush into the air business has the solid blessing of being typically American.

Where is it going, how long will it stick, what is the government going to do about it? These are questions heard on every side today.

The non-scheduled problem is not an easy one to solve. Certainly no one wishes to impose burdensome regulation on purely local taxi and charter operators who form the mainstay of civil aviation in the United States. In fact there is little reason to have any regulation at all except for observance of safety rules.

And certainly no one wants to close the door of opportunity in aviation especially in those areas of enterprise not covered today by scheduled airline service and in those areas where the CAB will not provide certificated service. All properly-operated air service helps the entire aviation industry and serves the public, as well. The vast amount of the new air service now being provided is operated by returning veterans and the CAB realizes, as does the industry generally, that arbitrary action which might lead to closing up of new businesses would bring about a most unfavorable reaction from the public.

Yet it is also certain that certain rules of the game must be applied to all common carriers and that the scheduled airline industry which struggled against heavy odds for so many years to build up a sound network

(Turn to page 6)

New Feederline President

Thomas E. Gordon heads the newly certificated Orlando Air Lines, which will get its routes in Florida in operation within the next 90 days. Gordon has been operating an intrastate service in Florida and owns Cannon Mills Airport, near Orlando.

In This Issue

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American Aviation

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Editorial

(Continued from page 1)

under strict government regulation, must be provided with economic protection in those areas of activity where the scheduled industry can perform adequately.

It is unfortunate, but true, that a sizeable number of the new veterans' firms which have purchased one or more large transports, will not be able to succeed financially, at least when the scheduled air transport industry becomes well equipped as it will be by late summer. Air transportation is an exacting business. More than one old-timer in aviation can testify that there are few lines of endeavor providing easier and swifter means of losing money. In a large sense the Civil Aeronautics Board has a responsibility to the public to caution against investing in new air enterprises without fully realizing the chances involved and without realizing that the lush passenger-carrying business of last winter between New York and Miami, for example, was symptomatic only of a temporary demand when scheduled airlines were acutely short of equipment.

On the other hand there remain opportunities for non-certificated business both for passenger and cargo providing that management is alert and sound, and providing the companies will be able to comply with common carrier regulation which the CAB is bound to enforce sooner or later.

It is probable that the CAB will reach a compromise in its findings to be issued very soon. It was wise for the CAB to waive regulations until it had an opportunity to study the problem. It was wise that it did not clamp down on non-certificated carriers during the period since V-J Day when scheduled airlines were inadequately equipped to carry the unprecedented number of people who wanted to fly. But it is time, now, that the CAB make clear its position as the arm of the government charged with the responsibility of building up a sound air transport system, that it will assume jurisdiction in due course over all common carriers. From the standpoint of safety alone this is necessary.

The Board's feeder policy and its indication that many new feeder route decisions will be made this year, will go far to bring order out of confusion in the local field. Small communities are deserving of air service and the initiative and enterprise of local operators should not be dampened in the interim period before the decisions are made. The Board should move ahead as rapidly as possible in deciding feeder routes in every part of the country.

Another field of activity which deserves recognition is air service to resort areas. Just how the Board will decide this issue is not known, but seasonal certification in those areas not served by scheduled carriers might well be taken into consideration. If new companies can operate safe and profitable seasonal service to resorts not otherwise served, there is no reason why the public should not have such service.

In the field of cargo, the scheduled airlines have been notably lagging in showing enterprise and initiative. This field has been open more by default than anything else to the so-called non-scheduled operators and some of the cargo firms are well-financed and maintain sizeable fleets of cargo planes. The cargo field is bound to be big and bound to be profitable in the long run to those who are successful in finding the right markets and the right products to haul. But the Board has a responsibility to the shipper and the public to establish proper standards and to prevent cut-throat and chaotic competition. And although the scheduled industry has tended to ignore or subordinate the cargo field, it would seem clear that sooner or later one or more of the major companies will embark on cargo operation seriously.

One of the most perplexing problems is the dividing line between the purely local taxi and charter operator, and the so-called non-scheduled operator of large transport airplanes. Perhaps the Board will find its solution by regulating on the basis of gross weight of equipment. The Beech 18-C transport, for example, is about the minimum transport plane to be used for certificated feeder service. Most local operators utilize single-engined equipment. Such a division of regulation by gross weight of equipment would eliminate the local operator from burdensome regulation, but would bring all others within the surveillance of the Board.

Another perplexing problem is the definition of scheduled and non-scheduled carriers. It is likely that the Board will define as scheduled any operation which calls for a certain number of flights per month between any two points. A figure of 10 flights a month between two points has been mentioned and discussed. In view of the long difficulties which the ICC faced in regulating trucking companies, it would seem wise for the Board to bring out a clear-cut definition with no loopholes, for such definition is a protection to everyone concerned.

Of the two fields now being occupied by several hundred non-certificated carriers—passenger and cargo—the cargo field offers the greatest opportunities for returning veterans if they are well financed and if they have business acumen. But in the latter field it will be the contract business that offers the most hope, for miscellaneous shipments without much promise of profitable return hauls means expensive operating costs.

The Board's findings in the non-scheduled field are awaited with keen interest. It is to be hoped that the Board will be judicious in providing only that type of regulation which offers economic protection to the existing and projected pattern of scheduled services and safety protection to the public, without prohibiting services which are useful and beneficial to the trade and commerce of the country. Orderly and constructive development of the airplane as a medium of transportation is called for in the public interest as well as opportunities for new air services.

WAYNE W. PARRISH

Accident Investigations

A PROMINENT ENGINEER specializing in safety matters believes there is need for some sort of a foundation or clearing house for training aircraft accident investigators of every country in the world. A good accident investigation requires a great deal of training and technical capacity, he believes, and some organization should take the leadership in providing the training.

This is perhaps even more important now that the states are going to participate actively and importantly in the investigation of accidents. If anyone comes forward with a plan of action, the engineer referred to above will put at the disposal of such a group a large amount of information he has accumulated on the subject over a period of years.

An Air Safety Foundation could accomplish a vast amount of good if properly organized and operated.

For Greater Safety VICKERS

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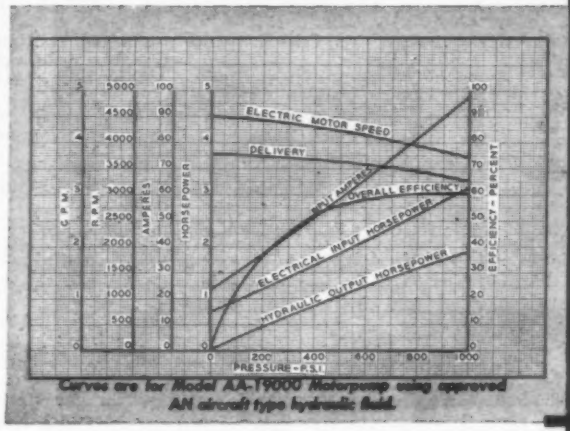

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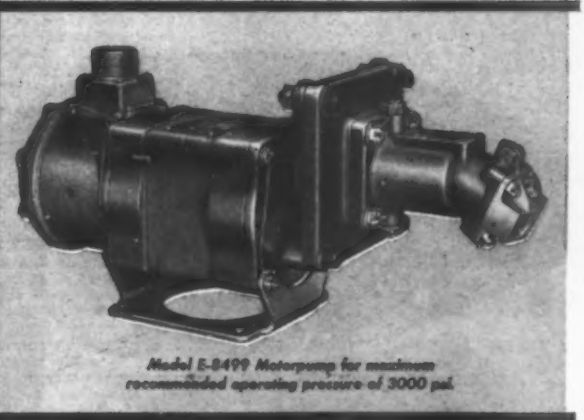

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Letters

'Let's Meditate'

To the Editor:

Enclosed please find our "Memoriam" column (List of ALPA pilots who have died, published in the ALPA house organ—Ed.) which should be meditated upon by those like the flight engineer and Mr. Cottonacht and whoever he represents (Letter in Mar. 15 AMERICAN AVIATION).

He brings up "proportions." Let's meditate on that next. Did the flight engineer offer to proportion his salary with the ground crew? Why was it so much more? When airline equipment speed increased from 100 mph to 180 in 1933 and airline pilots fought to retain the pay they received before, did they fight for their share of the saving in pilots' pay?

Seems that if it is so easy to become a pilot they could settle the matter by becoming one, or haven't they got what it takes to be an "airline pilot"? Will Rogers said, "When they start using cheap pilots—I stop flying."

AN AIRLINE PILOT.

Voyager Fuel Costs

To the Editor:

In your Mar. 15th issue of AMERICAN AVIATION, I was most interested in the article on p. 48, entitled "Profit from 10-15c Taxi Fare Seen in Study of Voyager 105." . . . I wish to call to the attention of whoever prepared these costs that there is a slight discrepancy in the per hour costs as constructed therein . . . The item to which I refer is the oil cost per hour which is shown at 8.75c when actually it should be 87½c. This is a discrepancy of some 78¾c which, as a per hour cost, does not appear to be significant. However, the writer goes further to explain that should the airplane be used for 150 hours a year the direct cost would be $580.63. With this discrepancy there would be an actual cost differential represented by the corrected figures of $118.13. This cost error becomes cumulative as you increase the utilization of the airplane.

JOHN M. BUTLER,
Technical Liaison Dept.,
Sales Division,
Douglas Aircraft Co.

(*Editor's Note:* The figures, prepared by Sydney Carter of AMERICAN AVIATION'S editorial staff, are upheld by Consolidated Vultee, which said that during a 500-hour test, the aircraft used oil at a rate of one-fourth quart per hour. Oil costs at 35c a quart would result in a figure of 8.75c per hour, as quoted in Carter's article.)

Time Has Come

To the Editor:

Congratulations on your recent editorial "Cut CAA In Half."

While I have been much impressed by the work done by the CAA, I am certainly in agreement with your statement: "The time has come when a very thorough examination should be made of the efficiency of the Civil Aeronautics Administration in relation to its size." The startling demand made by the CAA for their next year's appropriations has certainly brought this home to me with great force!

I also want to congratulate you on the stand AMERICAN AVIATION took on the CAA proposal to establish its own maintenance and repair bases. You have a splendid magazine, and certainly should be proud of it.

Rep. DEAN GILLESPIE (R., Colo.)
Washington, D. C.

Books

YOUR POST-WAR PLACE IN AVIATION, by Russ Brinkley; Aviation Press, Inc., 113 West 42nd St., New York 18, N. Y.; 96 pp.; 50c.

In the hands of a less skillful author, a book by this title and sold as this is, primarily on newsstands, could cause plenty of grief for aviation companies which have relatively few jobs available for the multitude of applicants available.

But Russ Brinkley's long record in various phases of aviation have stood him in good stead and evidently Capt. Eddie V. Rickenbacker, president of Eastern Air Lines, thinks so, too. Rick wrote a very warm foreword which should help in the sales. Richard G. Naugle contributed a chapter on "How to Start an Airplane Factory."

If the reader of the book takes care to read the opening chapters, he can gain much information from the remaining chapters. Brinkley pulls no punches in outlining the job prospects. He warns of the small chances of landing a ready-made job with the aviation industry. Yet he offers abundant information for the man with initiative and ideas. He's handled a delicate situation with real finesse—combining caution with hope.

Directed primarily to ex-service men, student pilots, high school students and Civil Air Patrol cadets, the book has 42 chapters on just about everything from airlines and manufacturing to flying clubs, fly-it-yourself service, merchandising and airports.

—*W.W.P.*

AIRCRAFT ELECTRICITY FOR THE MECHANIC, by Charles Edward Chapel; Coward-McCann Inc., New York; 461 pages; $5.00.

Mr. Chapel, research and development director at Northrop Aeronautical Institute, Hawthorne, Calif., explains in this book, in clear and simple language the electrical fundamentals and their applications and use. Before the book was printed, the author, a retired Marine Corps officer, used the manuscript in teaching aircraft electrical and ignition systems to officers and enlisted men of the Army, Navy and Marine Corps.

In the book, Mr. Chapel covers the fundamentals of electricity, direct-current circuits, the aircraft storage battery, condensers, generators, motors, ignition systems, engine starting systems and many other subjects. There are numerous charts, diagrams and pictures to illustrate his points.

Wings of Yesterday

Fifteen Years Ago

Collier Trophy for 1930 was presented to Harold F. Pitcairn and his associates for work in developing the autogiro. (Apr. 22, 1931)

Guenther Groenhoff established distance glider record of 165 miles from Munich, Germany, to Kaaden, Czechoslovakia. (May 5, 1931).

For his contributions to aerodynamics, Dr. Frederick W. Lancaster was awarded the Third Daniel Guggenheim Medal. (May 10, 1931).

The International Aeronautical Exhibition was held in Stockholm, Sweden. (May 15-31, 1931)

Twenty-five Years Ago

A resolution urging aerial code was submitted to the Chamber of Commerce of U. S. at Atlantic City convention by National Aircraft Underwriters Association. (April 27, 1921)

Foster Russell Aviation Co., Spokane, Wash., made 20,000-mile flight, visiting 75 towns and carrying 2000 passengers. This expedition was made to advertise 30 Spokane manufacturers in the "Inland Empire." The trip was completed with no accidents and no forced landings. (Apr. 30-Nov. 25, 1921).

Giovanni Ancillato flew over the Peruvian Andes, 16,000 feet altitude, in Ansaldo. (May 2, 1921)

First Provisional Air Brigade, U. S. Army Air Service, Langley Field, Va., was organized. (May 6, 1921).

Lt. J. A. Macready and Roy S. Langhan in a Packard Lepere biplane made record two-man altitude flight—34,150 feet (indicated)—over McCook Field, Dayton, Ohio. (May 6, 1921)

S. V. A. Ansaldo flew from New York to Chicago in 7½ hours. (May 7, 1921).

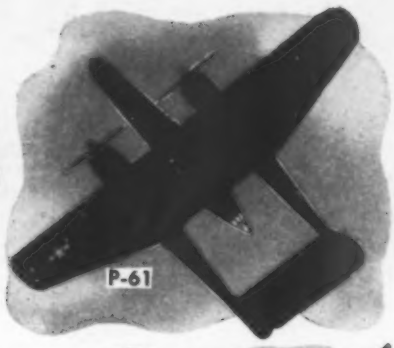
Annual flying meet for the Army Air Service was held at Mitchel Field, L. I. (May 8, 1921)

The President of Poland decorated 10 American members of Kosciusko Squadron for services in Bolshevist campaign. (May 10, 1921).

Booklets

Aero Insurance Underwriters, 111 John St., New York 7, N. Y., has prepared a booklet entitled "Here's How—A Brief Briefing on Civilian Flying." Text is addressed to all military and naval pilots home from the wars and includes revised sections of Civil Air Regulations, air traffic rules, pilot certificates and general operations rules.

The Sea-Air Committee of the National Federation of American Shipping, Inc., 2660 Woodley Road, N. W., Washington, D. C., has issued "The Economic Advantages of Integrated Sea-Air Transportation," a statement filed with the Interstate and Foreign Commerce Committee of the House of Representatives.



WINNERS

Some of these airplanes helped win the war . . . others are keeping the peace, and giving world travelers faster, more economical air transportation. Many more such planes are on the drawing-boards, for America's future air progress. Improved efficiency of operation is accomplished by the use of Chandler-Evans products on these planes.

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Background

(Significant Developments and Forec... Based o...

Talks With Russia: A conference with the Russians on civil aviation arrangements may take place sooner than was generally expected. State Department will probably bring up the subject when Lend-Lease to Russia comes up for settlement and when a loan to Russia is discussed. Russia is said to be generally receptive to the idea of discussing civil air routes.

C. R. Gets Stock Option: American Airlines has given the chairman of its board, C. R. Smith, option to purchase 50,000 shares of the company's authorized and unissued common stock at $58.50 per share (25c per share above the quoted market closing price on the date granted). This is because AA deemed it "beneficial to the company that the chairman of the board have a substantial proprietary interest in the company." The option expires June 1, 1950.

Competitive Flush: The only airline man in Washington who is losing his temper consistently over the international aviation policy battle is balding, pink-faced William McEvoy, PAA representative and ex-newspaperman. Though McEvoy is likeable and sociable, his face flushes deep red when he talks competitive aviation.

Industrial Preparedness: Last fall military planners were talking of an "industrial mobilization college"—something akin to the Army War College where military science is taught year in and year out—in order to have men trained in the art of quickly putting such industries as aircraft and ordnance into immediate war scale production should war threats again make it necessary. The plan has never completely jelled, and apparently the story has never been told properly on capitol hill. However, during the past few weeks West Coast aircraft manufacturers have been given a little more insight into this line of military thinking through a series of conferences with Maj. Howard H. Rosenheim, chief of the industrial planning section of the materiel command, AAF, Wright Field, who has discussed with them the proposed program for industrial preparedness.

Automatic Insurance: The announcement by Australian National Airlines that each passenger will be insured automatically free of charge for an amount approximately $6500, recalls that a similar move was once proposed for U. S. carriers. After due consideration the American companies decided insurance was a passenger's own business and that they would maintain liability coverage only. ANA claims to be the first airline in the world to adopt an automatic free insurance plan and as far as is known this claim stands undisputed.

Miami Landing Fees High: The owner of a twin-engine Beech relates that he was charged $11.50 to land at Miami Municipal (36th St.) Airport recently and that a non-scheduled cargo carrier pays $31.50 per landing. The Beech owner says Miami adds insult to injury by its general inhospitality to private flyers. High landing fees will kill off a lot of air business if continued.

New Propeller: Hamilton Standard is expected to announce this week a radical new type of propeller, which was first placed in use on the North American P-51 last year. It will be installed on the Martin 202 and Consolidated Vultee 240.

Notes on Manufacturers: Rumors that William B. Stout is no longer associated with Consolidated-Vultee are not true—he's still on the payroll. Right now he's assigned temporarily to Graham-Paige under contract until he finishes a special project . . . Wall Street financial circles report that the recent dinner at New York's Hotel Pierre at which Ralph Hunt, treasurer of Douglas Aircraft, talked about his company and its plan to an AAA-1 group of bankers, was the finest gathering of its sort ever held—with credit going to E. T. Stern, who handles Douglas public relations in the east. To add one of many colorful items to the dinner, American Overseas Airlines flew in three Edam cheeses from The Netherlands for the occasion . . . A nation-wide contest to encourage safe flying by students, pilots and plane owners, the first nationwide campaign of its kind ever to be sponsored by an aircraft manufacturer, has been announced by Piper Aircraft Corp. . . . It is sponsored jointly by W. T. Piper and approximately 1,000 Piper dealers.

...and Trends

(Based on the Fortnight's Top News)

Airfreight Feeling Its Way: One of the most interesting developments in the airfreight picture came recently when Sears, Roebuck & Co. began regular weekly overnight shipments of women's clothing by air from New York to the West Coast under contract with National Skyway Freight Corp. Five thousand clothing units valued at $50,000 are carried on each trip, the dresses being shipped on hangers, thus eliminating need for boxing and re-pressing. Non-scheduled operators appear to be making major inroads into the air cargo business and it is estimated they are now hauling more freight than the scheduled airlines. They have the advantage of not being bound by rigidity of schedules or routes, nor by set charges. Lack of standardization in aircraft continues to be a headache in the development of airfreight. Ground hauling and loading equipment, for example, must service DC-3s with loading doors 47 inches off the ground, DC-4s with doors 100 inches off the ground, and Constellations with doors 110 inches off the ground. Equipment manufacturers see no way of hitting upon a real standard.

Beech Seeks Facts: Smart move by Beech Aircraft Corp. was putting able Carl Wooton into Florida as factory distributor to test out new methods of estimating and improving sales. Wooton is on factory payroll but is acting as though he were an independent distributor. Based on Cannon Mills Airport, Orlando, Wooton is studying better relations with cities, keeping accurate records of a type new to the aviation industry, and working on better ground facilities. He's going to come up with some good ideas. And to cinch the deal, he took with him Ed Neilson who operated the popular Orlando airport before the war.

U. S. Lags Again: With the strong help of civil aviation clubs in Central America, much red tape connected with flying personal planes as far as the Canal Zone has been eliminated within recent weeks and months. But the U. S. hasn't simplified a bit of the unnecessary red tape at the border and the Canal Zone. It's tough on both U. S. and foreign aircraft. John C. L. "Tex" Adams of Panama City, Panama, can take a lot of the credit south of the border, but who is going to break the bottleneck in the U. S. is another question.

Messrs. Baker and Brophy: Too many good public servants who aren't publicity seekers don't get real credit for jobs they do. Two of these are George P. Baker, handling aviation for the Department of State, and Gerald Brophy, the U. S. Delegate to PICAO in Montreal. A one-time member of the CAB, Baker is now one of best and most responsible government officials and has done an exceptionally fine job for aviation. Brophy is a former attorney for TWA who did outstanding work in the Army during the war and has proved his broad abilities representing USA in international affairs. Unfortunately Brophy won't remain long as he wants to get back to his lucrative law practice.

Short Aviation Observations: With the Washington National Airport nearing the saturation point, CAA is moving forward with plans for a freight-cargo terminal proposed at nearby Beltsville, Maryland . . . It would take a year or more to develop such a terminal and CAA wants to start separating freight and passenger operations at busy Washington as soon as possible . . . Other large cities which haven't yet begun to lay such plans may find themselves caught in a jam within a very few years . . . Surplus Army air bases may provide the answer in some places . . . Dynamic Gael Sullivan, second assistant postmaster general who has shown a keener interest and insight into air mail problems than any of his predecessors, is laying plans for a separate air mail bureau in the P. O. Dept., setting apart at the operating level the two divisions for the handling of surface and air mail . . . Sullivan, together with other Government officials, recently studied the Los Angeles locale where the Department hopes to put helicopter air mail into operation as soon as CAB can act on pending applications . . . Sullivan recently witnessed a special demonstration of the Sikorsky helicopter at National Airport . . . PCA traffic men, polling airline customers in 50 cities, found that 35% thought military priorities still existed, 60% thought seats were still allocated to servicemen, and 75% thought it would be useless to seek reservations . . . While practically all airlines ran newspaper ad campaigns as restrictions were lifted, the message apparently didn't get across to the general public.—CLIFFORD GUEST

Established June 1, 1937

American Aviation

Net Paid 11,242 This Issue

Slim 1st Quarter Airline Profits Foreseen

Earnings Are Prime Casualty in Present Transition Period, Unprecedented in Air Transportation's History

By LEONARD EISERER

DESPITE RECORD breaking revenues, airline profits for the first half of this year will be relatively slim indeed, judging from the heavy red entries that predominate in early 1946 financial reports to the Civil Aeronautics Board. For earnings are the prime casualty of progress in the present transition period, unprecedented in air transportation, in which aircraft fleets are being re-equipped, ground facilities expanded extensively, and payrolls lengthened manyfold.

January and February results filed to date by 14 domestic airlines, with all their traffic gains, reflect in startling measure the immediate deficits involved in planning for the upsurge ahead in air travel and transportation. While the 14 carriers experienced a 27% increase in total operating revenues over the same 1945 period, they did so at a net operating loss (before income taxes) of $4,663,000. And only two of the smaller ones—Continental and Mid-Continent—managed to show profits.

The aggregate net operating total represented a $7,876,000 drop from a year ago, since these same carriers reported a net income (before income taxes) of $3,213,000 for January-February, 1945. However, refunds due to loss carry back provisions reduced the early 1946 actual loss by more than a million to $3,489,000.

The deep first quarter dip into the red was not unexpected in financial and airline circles and should give little cause for pessimism regarding the industry's long-term earning potential. The story, in brief, is along the pattern usually followed by rapidly expanding industries—spending heavily today to return profits tomorrow.

The sharpness of the rise in expenses which went up 69% over early last year is shown in the accompanying table. While the 14 airlines averaged a 10c increase over a year ago in operating expenses per revenue mile flown, there were radical individual spurts, such as the 32c rise in operating expenses experienced by TWA, and a 22c hike shown by National. Simultaneously, operating revenues were slipping on an average of 6c per revenue mile flown, due in part to a severe decline in mail income and in part to shifting load factors.

Major factors contributing to early year losses, and which may be expected to exercise a strong dampening effect on profits for the next several months, may be considered in three main groups—(1) planes, (2) personnel, and (3) expansion and modernization of ground facilities.

(1) Planes. Heavy expenses went on the books in early 1946 as a result of the airlines gearing their fleets for future traffic. Many of the big transports that will be heavy revenue producers in the last half of 1946 appeared on the ledgers without netting any income whatsoever.

Thus American Airlines in January had 38 Douglas DC-4 types, but was able to use only two in revenue service—and then only for a total of 4,329 revenue miles. February brought no improvement with only two of 45 of these four-engine planes getting into revenue operation.

Similarly, TWA, whose January-February net operating income slid from $630,000 in 1945 to a $1,918,000 deficit this year, had 10 Constellations by February with only two producing revenue, in addition to four DC-3 types under conversion. Complicating TWA's financial picture is the fact that while separate returns are filed for its domestic and international operations, complete allocation of joint expenses has not yet been completed. Thus the figures herein reported for the domestic service include certain undetermined operating costs allocable in part to the international service.

PCA in February had 19 DC-4 type planes, with only two in revenue operation, while United reported possession of 22 C-54s with only one in service.

Thus during the first 1946 quarter heavy conversion costs were being incurred without any substantial return from the planes involved, a condition that will gradually lessen in months ahead.

2. Personnel. Record training programs for pilots, stewardesses, and other personnel were common throughout the industry and served to inflate payrolls all out of proportion to the number actually required for current needs. Thus United in the first quarter alone trained 248 stewardesses, more than in any similar period in the company's history.

Continuation of airline personnel training programs on an extensive basis is assured for several months yet, adding to current expenses without contributing to current revenues.

3. Ground facilities. With greatly enlarged ground facilities an undeniable must for healthy growth of the air transport industry, the airlines have construction programs underway involving capital outlays running into the millions. American in January reported commitments for the acquisition of property and ground equipment totaling $2,250,000. And within recent weeks, Northwest, National, TWA, Western Air, and United announced new construction programs which will require expenditures in excess of $3,500,000.

The very nature of these elements which figured importantly in first quarter airline losses holds little prospect for a decrease in operating expenses during coming months. The costs of re-equipping air fleets, building up necessary personnel staffs, and improving ground facilities may be expected to continue.

However, definite improvement in the earnings column should become evident in the present quarter as more and more of the converted planes enter revenue service. By the end of June sufficient numbers of the craft should be in operation to pull a majority of the carriers out of the red.

The second half of 1946 may show a sharp gain in profits, with increased airplane capacity, heavier than ever passenger demand, and the aggressive development of freight business. However favorable overall earnings for the year will depend much on good flying conditions during the final quarter, to compensate for the losing start made in the first quarter.

Airline Financial Figures for January-February, 1946

	Total Operating Revenues	Total Operating Expenses	Aircraft Operating Expenses	Ground and Indirect Expenses	Operating Revenue per Revenue Mile 1946	Operating Revenue per Revenue Mile 1945	Operating Expenses per Revenue Mile 1946	Operating Expenses per Revenue Mile 1945	Net Operating Income	Profit or Loss
American	$7,879,711	$8,363,361	$3,022,858	$5,340,503	91.24c	98.03c	96.84c	83.70c	—$483,650	—$280,254
Braniff	1,324,233	1,467,147	587,670	879,477	83.18	95.07	92.16	89.86	—142,913	—76,904
Chicago & Southern	893,405	1,050,081	422,870	627,211	84.96	87.68	99.86	86.15	—156,675	—150,639
Colonial	352,886	383,825	149,247	234,578	99.35	91.17	108.06	105.66	—30,938	—33,085
Continental	587,775	580,963	244,941	336,022	89.54	73.32	88.51	81.29	6,811	51,034
Delta	1,129,045	1,222,880	458,731	764,149	88.54	106.67	95.90	80.31	—93,834	—67,621
Inland	264,731	287,190	145,188	142,002	85.16	91.15	92.38	79.82	—22,459	—22,830
Mid-Continent	639,042	635,380	281,454	353,926	94.04	79.90	93.50	95.55	3,662	262
National	716,093	920,824	407,641	513,183	68.25	67.88	87.76	65.03	—204,731	—122,691
Northwest	2,130,440	2,209,423	896,897	1,312,526	87.39	99.85	90.63	99.67	—78,982	—13,629
PCA	1,849,496	2,633,517	879,850	1,753,667	81.43	94.85	115.95	103.35	—784,021	—820,218
TWA	5,262,504	7,181,293	2,652,123	4,529,170	92.49	110.35	126.21	94.39	—1,918,789	—1,245,823
United	5,987,039	6,594,260	2,354,383	4,239,877	82.66	110.34	91.04	82.18	—607,221	—561,189
Western Air	1,108,624	1,258,460	540,315	718,145	94.55	108.70	107.33	94.85	—149,836	—155,787
TOTALS										
Jan.-Feb., 1946	30,125,824	34,788,604	13,044,168	21,744,436	.....	.....	.....	.....	—4,663,576	—3,489,874
Jan.-Feb., 1945	22,735,273	20,522,068	7,478,778	13,043,290	.....	.....	.....	.....	3,213,205	1,836,519

Northrop's Flying Wing Revealed as 89,000-lb. Craft

Bomber, Started in 1943, May Be Adopted For Cargo

By FRED S. HUNTER

NORTHROP'S big Flying Wing was revealed as a long-range, heavy load capacity, high-speed plane in an announcement by the company that construction of the XB-35, which began in 1943, has been completed at the Northrop Aircraft plant at Hawthorne, Calif.

When the new sky giant is rolled out of the hangar onto the flight strip at Hawthorne it is expected to weigh in at 89,000 pounds. Its design useful load is 73,000 pounds, but it can reach as much as 120,000 pounds, making its overload gross weight 209,000 pounds. The Flying Wing is 172 feet in span and has an area of 4,000 square feet.

Originally designed as a bombardment-type military airplane, its design is such that it may be adapted as a cargo plane.

It is powered with four Pratt and Whitney Wasp Major engines, equipped with single-stage General Electric turbo-superchargers, turning four eight-bladed Hamilton Standard co-axial pusher propellers, and designed to deliver a total of 12,000 horse power under military power. The crew nacelle is pressurized.

The plane just completed is the first of 15 such aircraft, identical in overall dimensions, which are to be produced by Northrop under Army contract. Cost for the first aircraft is estimated at about $13,000,000.

The Flying Wing, as its name implies, has no conventional fuselage or tail surfaces. It is shaped like a giant boomerang and carries its engines in submerged housings which do not protrude from the wing surface.

Control is achieved by means of "elevons," developed by Northrop to combine the functions both of elevators and ailerons. Normal crew for the XB-35 is nine men; pilot, co-pilot, bombardier, navigator, engineer, radio operator and three gunners. Cabin space is available for six more men to alternate with crew members on long missions. Folding bunks accommodate the off-duty men.

The wing is built with a new aluminum alloy developed by Alcoa, which, tests have shown, is stronger than previous materials of similar nature.

The XB-35 represents the culmination of flying wing design experiments begun by John K. Northrop, president of Northrop Aircraft, as far back as 1923. The big wing is the latest of more than a dozen tailless aircraft to be flown by Northrop Aircraft since the company was organized at its present location in Hawthorne in 1939.

The wing section itself is 37½ feet long at the center, tapering to slightly more than nine feet at its tips. It sweeps back from center to tips, making the overall length of the ship slightly more than 53 feet. It stands over 20 feet high when at rest on its tricycle landing gear, which is equipped with five-foot six-inch dual wheels on the main gear and a four-foot eight-inch wheel on the nose gear.

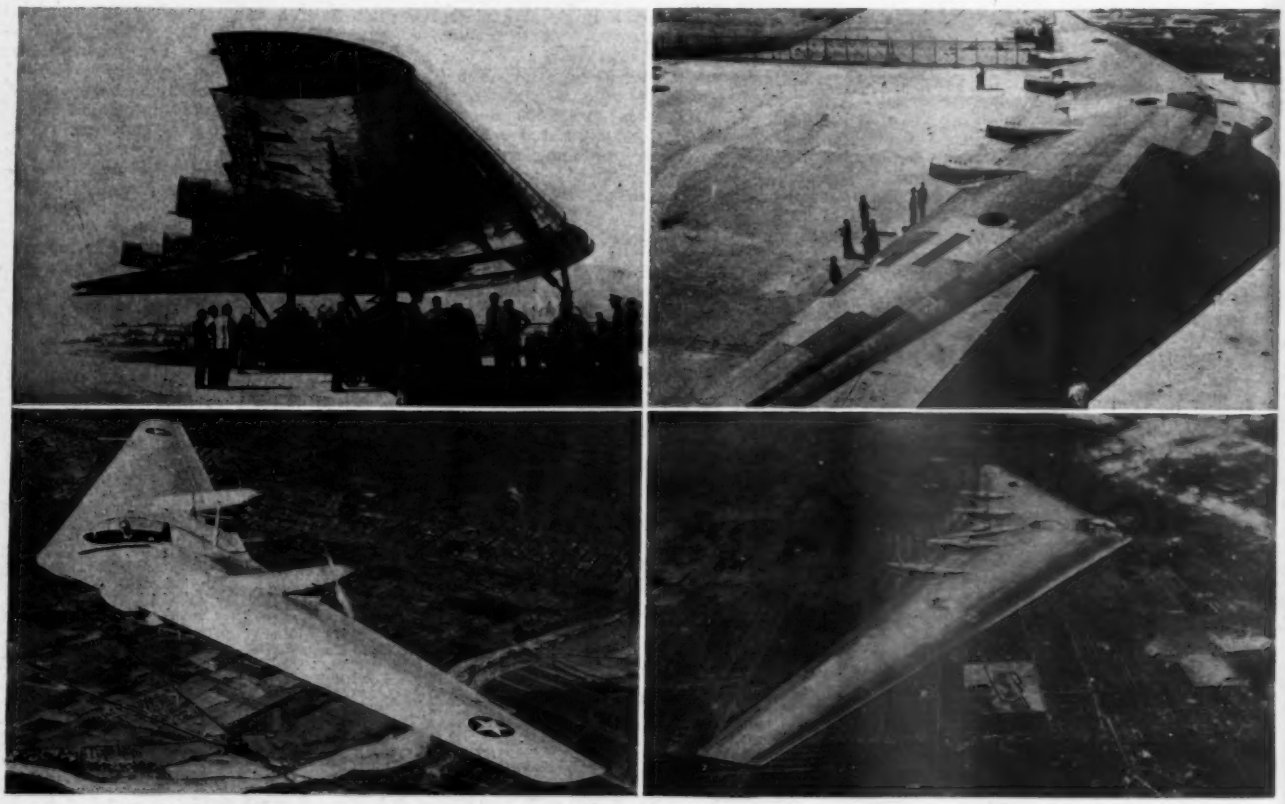
No performance figures are revealed, because the Army has not yet lifted the veil of secrecy on this phase of the new craft, but John K. Northrop has said that he hopes eventually to demonstrate air transport planes of all-wing design with top speeds as much as 100 miles an hour greater than would be possible with conventional designs of the same power and capacity.

"It is not too much to say that this new family of airplanes, adaptable to most all types of military and civil aircraft, will have a profound influence on all plane designs and on accepted performance standards," he declared.

It is pertinent too that construction started on the wing in 1943 at the height of the war with Germany when the fate of England was uncertain and the Army was vitally interested in finding a long range bomber which could attack a target in Europe from the shores of this country and come back safely.

When the great wing takes to the air—which, incidentally, may not be for several weeks as extensive taxi tests will come first—John K. Northrop and the men who have been associated with him in the aircraft business during a quarter of a century will turn a dream of more than 20 years into a reality.

Like its predecessors, the XB-35 uses



This panel of photos shows progress on the Northrop Flying Wing. Upper Left: "Sweepback" of flying wing resembles giant boomerang; Lower Left: Sixty-foot scale model of XB-35 in flight; Upper Right: Partially completed craft on apron at Northrop Field; Lower Right: Artist's conception of completed bomber in flight.

"elevon" controls, a combination of elevators and ailerons. These elevons are included in the trailing edge, with landing flaps, trim flaps and special rudders. Span of each elevon is 34 feet six inches. Trim flaps and rudder assembly is at wing tip. Landing flaps occupy center section of span. Controls are actuated through full-boost hydraulic system, which taps 92 horsepower from the engines to work eight pumps, to prevent excessive control pressures. This is coordinated with special Northrop-designed pneumatic loading devices for pilots "feel."

The trim flaps, located near the tips of the trailing edge of the wing, are double split flaps which open like a clamshell. When the pilot presses left rudder, the double flap opens at the left wing tip, setting up a drag which slows the wing at that end to help turn the big plane. Use of this flap rudder has enabled engineers to dispense with vertical surfaces such as those used on conventional aircraft and thus improve efficiency as the flap rudder creates no additional drag when not in use.

Northrop's engineers theorize that the XB-35 will be at least 20 per cent faster than a conventional craft of the same load and horse power, but the greatest advantage gained is in range, load and economy.

The ratio of lift to drag on the Flying Wing is estimated at between 140 and 200 to one. Thus, the Flying Wing with a drag of 1,000 pounds would have a lifting capacity of 140,000 to 200,000 pounds as compared to 100,000 pounds on a conventional plane.

Although the propeller installation actually is four eight-bladed propellers, they will look like eight four-bladed propellers. They are Hamilton Standards, superhydramatic and counter rotating. Propeller diameter is 15 feet four inches. The props are reversible pitch. Propeller clearance is nine feet eight inches.

The XB-35 is equipped with automatic pilot, but it is a special "hopped up" version. Auto pilots on conventional planes have three Servo motors which actuate the controls. But since the Flying Wing has unconventional controls, engineers of the Minneapolis-Honeywell Regulator Co. designed a special automatic pilot which has four motors.

No announcement has been made as to power plans for the remaining models of the Flying Wing under the Army's order for a total of 15 of the ships. It is known, however, that these models will include both jet and turbines. One undoubtedly will be the Northrop-Hendy turbine which is being developed by one of Northrop's divisions, the Northrop-Hendy Co. which was organized recently on a fifty-fifty basis by Northrop Aircraft and the Joshua Hendy Co.

Col. Prouty Joins TWA To Direct Iranian Airways

Col. Stanley M. Prouty, recently resigned from the regular Army after a long career, has been appointed TWA representative and chief of administration in the office of Iranian Airways.

As previously announced, TWA is making arrangements to purchase approximately 10% of Iranian Airways capital stock and will assist in organizing and operating the company for scheduled service in Iran and between Iran and neighboring countries. Col. Prouty, with headquarters in Teheran, will direct activities of the new airline.

New VP—Fred M. Glass, prewar counsel for American Airlines and the CAA's air safety board, has been named vice president of Pennsylvania-Central Airlines in charge of its southern division. His regional headquarters with PCA will be at Washington National Airport. During the war Glass served as chief of staff for ATC's Pacific division. Since the war he has been associated with Covington, Burling, Rublee, Atcheson & Shorb handling American Airlines System's account in Washington.

R. J. Smith Acquires Interest in Essair, Inc., Is Elected President

Robert J. Smith, who resigned his position as vice president in change of expansion and route development with Braniff Airways in February, has acquired a stock interest in Essair, Inc., and has been elected presiden of the Texas feederline. According to documents filed with the Civil Aeronautics Board, Smith now hold 1,625 shares or 41.67% of Essair's issued and outstanding stock, plus $162,500 5% Essair Debentures (4.67% of the total outstanding).

It is understood that Smith acquired shares formerly held by Clinton Murchison. The Essair stockholdings on S. W. Marshall, Jr., which were at one time reported to be 25%, have now been reduced to 16.66%. Current holders of more than 1% of Essair's stock are W. F. Long, 41.67%, Smith, 41.67% and Marshall, 16.66%.

Officers of the company at present are W. F. Long, chairman of the board; R. J. Smith, president and director; L. H. Luckey, vice president and director; E. Y. Holt, vice president; E. W. Bailey, secretary-treasurer; S. W. Marshall, Jr., director; and James M. Cumby, director.

Smith has applied for CAB approval of an interlocking directorate resulting from his holding presidencies in Essair and in Aviation Activities, Inc. The latter firm, an agent of the War Assets Corp., was set up early this year by Smith, S. Jack Ingram, and Henry I. McGee, Jr., all formerly with Braniff.

Air France and SILA Join Arinc

Air France and the Swedish airline SILA have joined Aeronautical Radio, Inc. (Arinc), a non-profit communications organization organized by the airlines. BOAC is expected to join soon.

Aviation Calendar

May 6-7—Eleventh National meeting, National Aircraft Standards Committee, Lexington Hotel, New York.

May 6-8—First joint engineering conference on personal planes, AIA and CAA, Shoreham Hotel, Washington.

May 8—ATA Air Traffic Conference, Edgewater Beach Hotel, Chicago.

May 9—First postwar NACA Engineering Conference, Langley Field, Va.

May 10—NAA directors meeting, Statler Hotel, Washington.

May 13-14—New York State Aviation Council's semi-annual meeting, Westchester Country Club, Rye, N. Y.

May 13-19—Aviation Week air show, Galveston, Tex.

May 20-22—American Association of Airport Executives annual convention, Congress Hotel, Chicago.

May 22-25—Aviation Writers Association national convention, Hotel Severin, Indianapolis.

May 24—Kansas Farmers' Flying Club convention and exhibit, Hutchinson, Kan.

May 27-28—Aeronautical Training Society annual meeting, Mayflower Hotel, Washington.

May 30-June 2—Oklahoma Aviation Association air tour, western half of state.

May 31—Air Service Operators of Alabama meeting in Birmingham.

June 1-2—National Air Carnival, Birmingham.

June 1-2—Air Show at Los Angeles Municipal Airport, sponsored by Los Angeles Examiner.

June 2-7—SAE Summer (Semi-Annual Meeting), French Lick, Ind.

June 8-9—Dedication, Eldon, Mo., model airpark.

June 13-15—Annual New England lightplane tour, auspices New England Aviation Trades Association.

June 14-15—Third National Air Conference sponsored by National Aeronautical Association of Canada, King Edward Hotel, Toronto.

June 25-26—Aviation Distributors & Manufacturers Ass'n. meeting, Hotel Traymore, Atlantic City, N. J.

July 18-21—World's Fair of Aviation, Omaha.

July 18-19—IAS National Annual Summer Meeting, Hotel Hollywood-Roosevelt, Los Angeles.

July 19-20—NAA National Convention, Omaha, Neb.

July 26-27—NAA Joint Private Flying Conference, Milwaukee.

July 29-30—NAA Joint Air Youth Training Conference, Milwaukee.

Aug 1-2—National Flying Farmers' Association first annual convention, Oklahoma A&M College, Stillwater, Okla.

Aug. 2-4—Observance of 20th anniversary of air passenger service, Grand Rapids, Mich.

Aug. 21-28—World Congress on Air Age Education sponsored by Air Age Education Research, International House, New York.

Aug. 22-24—SAE National West Coast Transportation & Maintenance Meeting, New Washington Hotel, Seattle.

Aug. 30-Sept. 7—International Air Show, de Havilland Airport, Toronto, auspices National Aeronautical Association of Canada, 409 Confederation Life Bldg., Toronto.

Aug. 31-Sept. 2—National Air Races, Cleveland, O. (Official dates)

INTERNATIONAL EVENTS

May 21—PICAO Assembly meets, Montreal.

Oct. 29—Annual meeting International Air Transport Association, Cairo.

Orlando Air Lines Expects To Open Routes in 90 Days

Certificated Feederline To Become 'Florida Airways'

ORLANDO AIR LINES, newly certificated feederline operator, expects to get its routes into operation within the next 90 days, Thomas E. Gordon, president, told AMERICAN AVIATION. The company will form a new corporation and adopt the name Florida Airways.

Gordon said the reorganization would provide the financial backing necessary to complete an immediate expansion program to get the certificate into operation. Florida Airways Corp., has $2,700,000 authorized for stock issue, but only $300,000 will be offered for sale immediately.

Gordon has been operating three intrastate routes in Florida for the past 19 months, and during the past six and a half months has transported more than 2000 passengers. His present equipment includes four single-engine Stinsons and two twin-engine Cessnas.

For his certificated operations Gordon has on order three Beechcraft D18-C, which will carry nine passengers and crew. It is possible that the company will also use DC-3 equipment if present routing plans pan out.

Orlando Air Lines currently has seven pilots, and a total of 24 employes. Expansion of personnel is underway. The company's chief operating base is Cannon Mills Airport, near Orlando and owned by Gordon. The chief maintenance and operations base will be situated there.

Gordon will set up ground personnel at Orlando, Jacksonville and Tallahassee, otherwise the airline's ground operations —including traffic and sales and communications—will be handled by local airport operators at the respective intermediate stops.

Teletype and telephone communications will be used between the various intermediate points and the central operations control point at Orlando for reservations and other operational procedures. This will eliminate the need for any substantial number of dispatch or traffic and sales personnel.

Gordon said that in line with the CAB recommendation, his company was attempting to keep operations costs at a minimum. A partial answer to this, he said, is found in frequency of schedules which overrides the need for field personnel since the public quickly is alerted to the service by its frequency alone.

Gordon has been operating his intrastate service at a charge of 6c per mile, and he said he would continue this rate under his certificate. His cargo operations have been limited to light perishables, such as flowers, and he expressed belief that a rate higher than that charged by the trunk-line carriers would be necessary for his company.

Orlando's intrastate routes operated from Orlando to St. Petersburg, Orlando to Jacksonville, and Orlando to Tallahassee. Operations began with one trip a day on two of the routes, and in January of this year were stepped up to two trips a day. The result was almost a five-fold increase in passengers carried.

Gordon said that schedules of from 1½ to 2½ hours apart were required to give the frequency of service required for feederline operations. He also expressed the need for definite rules by the CAB which would apply to his type of operation *vs.* that of the so-called trunkline carrier.

Wilson Plans to Fly C-47s on Feeder Line

Ray Wilson, Inc., the Denver firm recently awarded an extensive feeder airline certificate for the Rocky Mountain area, expects to use converted C-47s for its service and plans to contract all maintenance and overhaul work to Continental Air Lines, it is learned.

The Wilson firm is unable to utilize the twin-engined Beech transport because of the high altitude of much of the route. One of the Wilson airports, Leadville, Col., is 10,000 feet high. Each of the several C-47s will be converted into combination passenger and cargo transports.

Continental also may handle ticketing and other work for Wilson. No estimate is yet available as to the inauguration of any of the feeder routes.

Industry Group Forms Policy for Air Shows

A national plan for air shows and public aviation events during the next 12 months was the aim of an industry-wide meeting in Washington last month, sponsored by the National Aeronautic Association.

Policy recommendations of the group, which included representatives of NAA, Aircraft Industries Association, Army, Navy, Marine Corps, National Aviation Trades Association, and the National Air Race Corp. of Cleveland, O., provide: (1) There shall be but one recognized air race each year. (2) There should be a maximum of 48 so-called air meets or public aviation demonstrations, one for each state if desired. (3) There shall be no approved dealer trade shows, as such, for approximately one year. (4) There shall be two national manufacturers trade shows for display, exposition, and trade stimulation purposes, one for eastern and one for western U. S. (5) There shall be sufficient latitude in considering sponsorship of special events to insure constant interest by all aviation elements. (6) Nothing in these recommendations apply to air plans and programs of Army, Navy, and Marine Corps with respect to participation in public aviation events.

While proceedings of the special committee were informal, all suggestions received unanimous approval. The group is subject to reconvene at the call of temporary chairman, William P. MacCracken, of NAA, to consider further recommendations for a long range program. NAA has agreed to service the activities of the committee.

Ronald Kinsey

Western Elects Kinsey To Vice Presidency

Ronald Kinsey, Washington representative of Western Air Lines since 1943, has been elected vice president of the company, and Robert Light, a Los Angeles attorney recently discharged from the Army, has been elected assistant secretary. A new member of the board of directors is Walter Boswell of Soule Steel Co., replacing George J. Murray, resigned.

Officers reelected are: William A. Coulter, president; Leo H. Dwerlkotte, executive vice president; Charlie N. James, vice president-operations; Paul E. Sullivan, vice president and secretary; and J. J. Taylor, treasurer. Reelected directors are Coulter, Dwerlkotte, Stanley W. Guthrie and George Albert Smith.

Kinsey will continue as eastern representative of the airline.

Airborne Exports, Imports Soar to 13,998,857 Lbs.

The volume of U. S. exports and imports by air has grown from about 1,000,000 pounds in 1939 to 13.998,857 last year, according to Director J. C. Capt of the Bureau of the Census, Department of Commerce. The value of airborne exports was set at $52,206,681 and imports at $107,772,035, a total of $159,978,716.

Bulk of the airborne products was goods whose market value depended upon quick delivery, such as newsreels, feature films, news photographs, newspapers, magazines, stamps and stamped envelopes. Luxury goods imported included exotic flowers, out-of-season fruits and vegetables and furs. Industrial needs were reflected in the exporting of aircraft and machine parts, electrical equipment, industrial gems and scarce minerals.

Wolfe Joins Drug Company

Tom Wolfe, who resigned recently as vice president of traffic of Western Air Lines, is to foresake the air transportation industry after more than 20 years, to join United Rexall Drug Co. which recently moved its general offices from Boston to Los Angeles. Wolfe is to become assistant to Justin Dart, president of the drug concern, at a salary reported to be $40,000 a year. Wolfe is reported to have been offered a vice presidency by Pan American and to have received several other offers from airlines.

Many Non-Scheduled Outfits Favor Regulation, Recognition

Strong Industry Association Also Needed, IAT Decides

By ERIC BRAMLEY

ADEQUATE FEDERAL regulation and a strong well-organized industry association were recognized by non-scheduled passenger and cargo air operators attending the Institute of Air Transportation meeing in New York Apr. 15 as their primary needs for survival in the highly competitive post war air transportation field.

The one-day session, attended by over 100 representatives of some 30 non-scheduled companies, was filled with provocative discussions. It was the first time that so many members of this new industry had gathered in one room, and they made the most of their opportunity.

It became evident as the meeting progressed that federal regulation and recognition, adequate to insure the highest standards of safety, but not so restrictive eonomically that it will put them out of business, were favored by the majority of the group.

In addition, opinion was unanimous that an industry association is needed: Its form and function will probably depend somewhat on the type of Civil Aeronautics Board regulation that is forthcoming. If satisfactory regulation is put into effect, the association will furnish a means by which the operators can lend more weight to their opinions, will help them in their relations with sellers of equipment and services, help effect economies in maintenance, etc.

Policing is Needed

If adequate regulation and recognition is not forthcoming, the association can be expected to assume the all-important function of giving the industry a means of policing itself. In any event, it was the general feeling that the already-active Institute of Air Transportation furnishes the nucleus around which either type of an organization can be built.

IAT was formed several weeks ago by 16 operators plus Boochever, Cameron & Bobrick, attorneys, and Cannon & Smith, insurance brokers. At the Apr. 15 meeting almost a score of other operators indicated that they would join or were definitely interested in IAT.

On the subject of CAB regulation, it was clear that those attending the meeting did not favor all of the recommendations of the Board's examiners in the so-called non-scheduled investigation, particularly the section limiting them to 10 round trips monthly between points served by the scheduled airlines.

Hobart Cook, president of Trans-Marine Airlines Inc., and one of the leaders in formation of IAT, presented the report of IAT's passenger committee and asserted that adoption of the examiners' recommendations as they now stand would mean that "CAB places before all its other duties protection of the already certificated scheduled carriers and does not, as it is enjoined to do, act in the public interest that there be developed an air transport system properly adapted to the present and future needs of the foreign and domestic commerce of the United States, of the postal service and of the national defense."

Cook added that it was a "mistaken attitude" for non-scheduled operators to seek complete exemption from federal regulation. "If we are consistent with our convictions that the non-scheduled operator performs a valuable and necessary public function, then we must insist on federal recognition and regulation," he said, adding that "only with proper federal regulation and protection will non-scheduled operators survive and establish themselves in the eyes of the public as an ethical, reliable, responsible and necessary part of the air transport network."

Restricting non-scheduled operators to 10 trips monthly between airline points is an indication of CAB's desire "to protect the scheduled airlines—but protect them from what?" Cook asked. "They are already virtually subsidized through mail contracts. Certainly this fact alone prevents any large degree of rate competition. It is also not likely that non-scheduled passenger operators will be able to compete in speed and comfort with, for instance, a Constellation. Rather than being competitive, the non-scheduled operation is the perfect complement to the scheduled operation; it provides service on an anywhere, anytime basis when factors exist that place its convenience and necessity above that of the scheduled services."

The passenger committee recommended that:

1. Examiners' recommendations be adopted except those limiting trips to 10 monthly between certificated points, limiting fixed base operators to business originating at or destined to their principal place of business, and requiring non-scheduled operators to reduce service on a route to a casual basis if such route is awarded to a certificated airline.

2. A more appropriate name be selected to designate the services performed and the term "certificated non-scheduled air carrier" is suggested.

3. No limitation be placed on non-scheduled carriers as to frequency, destination or intermediate points served, and until an interpretation of "reasonably direct service" can be obtained from the Board, further recommendations on this cannot be made.

4. Prior operation of a non-scheduled route be considered as strong evidence in support of route applications, and prevention against certification by the Board of other operators on the route until proper consideration of the fitness of all applicants can be effected.

5. The regulations of the Board be further amplified to the extent of controlling fair tariffs, the requirement of carrying adequate insurance by the carrier, regulation of maintenance procedures and aircraft and pilot airworthiness to a greater extent than presently effected by the CAA.

6. The Board place in effect upon non-scheduled services the provisions of CAA draft release 58 in order that standards of operation may be immediately standardized.

IAT has asked that the non-sheduled investigation be re-opened, but it is doubtful if this will be granted. However, a brief will be filed with CAB, giving the group's suggestions on the form that regulation should take.

A wide range of problems was discussed at the meeting. Edward Jenkins, eastern division manager of National Skyway Freight Corp., presented the report of IAT's cargo committee, pointing out that airports represented the operator's number one problem at this time. "We are are being shunted aside and held down" at airports, he said, adding that operators should establish better relations with managers of airports which they serve. Jenkins also said that more favorable gasoline prices must be obtained and that the operators must improve their ground handling of merchandise.

He pointed out that, as business grows, it will be "definitely necessary" for operators to work out an interchange of cargo. If an operator is flying from New York to Los Angeles while another covers Chicago-Dallas, there is no reason why New York-Dallas cargo could not be transferred from one carrier to the other at Chicago, he said.

The best method of organization for IAT was discussed at some length, with the majority favoring one association with passenger and cargo departments rather than two separate associations. Robert Prescott, president of National Skyways, was suggested for president of IAT, but both he and other members pointed out that a nationally-known, full-time president was needed. Samuel C. Dunlap, of Slick Airways, asserted that it would be worthwhile for the association to pay such a president $25,000 a year. IAT, according to George S. Boochever, counsel, wants a yearly budget of $100,000.

That the operators attending the meeting were sincere in their desire to weed the fly-by-nights and unsafe carriers from their ranks was seen in the way they received a frank talk given by Richard Fender, chief of non-scheduled operations, Region 1, Civil Aeronautics Administration. Fender was roundly applauded after pointing out some of the questionable operations that have been conducted and telling the meeting that some ethics will be needed in the industry.

Fender cited the example of an operator who left Miami for New York and who was unreported for over five hours. He had lost an engine, landed at Jacksonville, and was reluctant to refund any passenger fares.

Award—Beverly E. Howard, president of Hawthorne School of Aeronautics, Orangeburg, S. C., receives a certificate of service "in recognition of meritorious service rendered the AAF Training Command" from Col. Preston P. Pender, commanding Turner Field, Albany, Ga. The AAF contract school trained 5,924 American and French aviation cadets between Oct. 4, 1941, and Oct. 13, 1945.

Mediation Board 'Ignored' In Threatened Pilot Strike

Agency Receives No Notice From Behencke in Dispute

THE THREATENED strike of all pilots and co-pilots on TWA, originally called for the week of Apr. 21, was postponed last week until "one day during the week of Apr. 28," and as this issue went to press no strike action had been taken.

The strike was originally announced on Apr. 12 by David L. Behncke, president of the Air Line Pilots Association, who said that the TWA pilots, by a vote of 812 to 9, had decided to leave their jobs because of a breakdown in negotiations over pay and working conditions involving the operation of TWA's Lockheed Constellation and Douglas Skymaster four-engine aircraft.

Robert F. Cole, secretary of the National Mediation Board, the government agency which has jurisdiction over management-employe disputes, claimed the information it has received from ALPA is still so indefinite that the Board could not take official cognizance of the matter. He stated that the Board, in response to its request, still had not received from ALPA any official notice of the breakdown in negotiations, the strike vote and other pertinent information.

Ignored Board

Asserting that Behncke had "totally ignored the Board," Cole stated that under certain circumstances, the Railway Labor Act, which governs airline management and employe relationships, provides a method whereby the President may step in and appoint an emergency board to hear the dispute. However, this request for the President to act must come from the Mediation Board after all other avenues of settlement have failed.

In a prepared statement, Behncke said: "On Feb. 18, TWA accepted a proffer of arbitration by the National Mediation Board to settle this dispute, but withdrew on March 8. The Air Line Pilots Association regards this date (March 8) as the one on which the company withdrew and the beginning of the 30-day period after which either party to a dispute is free to act on its own. The Association can take but one stand and that is that TWA has refused to arbitrate in this case, leaving the decision to strike as its only recourse unless an emergency board is appointed by the President to hear the dispute."

Behncke said that TWA pilots started their strike vote March 11. Asked what would happen if TWA attempted to operate after the strike had been placed in effect, Behncke said: "I'd rather not comment on that."

Ralph S. Damon, president of American Airlines and chairman of the Airlines Wage Policy Negotiating committee, said the strike call of TWA pilots "is difficult to understand," because as late as April 3, the National Mediation Board recommended arbitration to both sides in the case and the airlines promptly accepted. TWA last December assigned its wage dispute with its pilots to the Airlines committee, designating the committee as its legal representative to sit in on the negotiations. Paul Richter, executive vice president of TWA, is also a member of the committee.

"The first information received by the committee regarding the attitude of the pilots' association was the TWA strike call," Damon continued.

Basic issue of the dispute is the pay for pilots. Various figures have been given out as to the amount of money the pilots were seeking. Some industry sources placed this as high as $22,500 annually but the more prevalent quotation has been around $18,000.

On the question of pay, Behncke said that under the most favorable earning conditions, a pilot in international operations could not earn more than $16,000 a year, based on ALPA's demand for approximately 80 hours monthly on DC-4s and 10% less than the present 85 hours on the Constellations. He said currently airline pilots earn from $2760 annually up to $13,200. He said that some domestic first pilots receive as high as $1000 monthly for flying present day DC-3 aircraft but the overall average for first pilots is only $675 monthly.

In the current dispute, it is understood that the Airlines Negotiating committee has offered to go as high as $15,000 annually for pilots with top seniority ratings.

If the strike is called, Behncke said more than 1,000 TWA pilots would walk out and service would be suspended on all of TWA's 28,270 air route miles.

This is the first major labor dispute between pilots and the airlines in the history of U. S. commercial aviation. The nearest approach to a similar break was back in 1933 when the 40 pilots of Century Airlines, of Chicago, refused to fly after the company is said to have attempted to reduce wages. The Air Line Pilots Association called it a "lockout" rather than a strike.

NAA Revises Aims to Benefit Communities

Culminating a two-year study of its objectives and agencies, the National Aeronautic Association is re-aligning its activities for greater usefulness in advancing civil aviation interests at the community level, Lowell H. Swenson, NAA manager, announced last month.

Toward this end, its 25-year-old official magazine, *National Aeronautics*, this month will be changed in name, format, and editorial content. The new publication, *Flight Plan*, will be designed as an informative periodical featuring case histories, organizational details, and official policy announcements of immediate practical value to local NAA chapters.

Other services of NAA will continue, Swenson said. The weekly newsletter, *FYI*, the monthly *Airport Digest*, and the *Chapter Service Bulletins*, will all continue in their present form.

S. Ralph Cohen, managing editor of *National Aeronautics* for nearly three years, has severed his connection with NAA, and Mrs. Lucile Thompson, NAA chapter service director, will edit the new periodical.

Races Sanctioned—William R. Enyart, right, president of National Aeronautic Association, and Frederick C. Crawford, left, president of National Air Races, seal the contract for NAA sanction of the first revival of America's air classic since 1939. Looking on is Col. Roscoe Turner, winner of many National Air Race events. NAA will supervise timing of events at the Cleveland meet, Aug. 30 to Sept. 2.

Military Pilots Group Formed to Establish Employment Seniority

The Military Pilots Association, Miami, Fla., organized to establish the seniority of military service pilots in commercial operations, reported that it was seeking a national charter and was receiving sympathetic treatment from the certificated air carriers.

Everett E. Jones, MPA's president, said his organization had received no word from David L. Behncke, president of the Air Line Pilots Association, on a promise to call a vote of all ALPA members regarding seniority for military pilots.

Jones said Behncke promised to take up the vote with his executive committee. "Evidently they don't think that this question is important enough for their members to be consulted about as so far we have heard of no votes."

"His (Behncke's) attitude seems to be that he must protect his members regardless of their pilot experience."

Jones said several airline officials have told MPA they would give military pilots seniority if the union (ALPA) would agree. MPA has members working for practically all of the airlines, he said.

MPA has local chapters started in Miami and Los Angeles, plans establishment of 50 more within the next few weeks. The organization has a Florida charter and Jones said Rep. Pat Cannon was working on a national charter.

MPA has been operating as an employment agency, placing its members with both the certificated carriers and the non-scheduled operators. Response to this activity has been good, Jones said.

Airlines to Center at Willow Run?

Now that the War Assets Administration has approved an agreement whereby the University of Michigan will take over, on an interim basis, the operation of Willow Run Airport near Detroit, it was expected that airlines serving Detroit would soon perfect their plans for moving at least a part of their operations to the Willow Run site. It is understood that the airlines will center all of their Douglas DC-4 and some of the Douglas DC-3 operations at Willow Run.

P. O. Dept. Will Participate In Future Route Proceedings

Statement Indicates Interest In Service by Helicopters

THE POST OFFICE Department told the Civil Aeronautics Board last fortnight that it intends "to participate actively from their inception in future new route proceedings in which we have an interest."

Particular stress was laid on the PO's great interest in the practicability of using helicopters for the carriage of mail in and around large cities, and the PO served notice that it will be heard from in the forthcoming hearings on helicopter applications in the Los Angeles area.

Second Assistant Postmaster General Gael Sullivan also complimented the CAB on its "most constructive" action in awarding recent temporary feeder line certificates, and indicated that the PO would have something to say on this subject at future hearings.

Active PO participation in CAB proceedings is an important part of Sullivan's program of having the PO represented in all air transportation matters which concern it. It is believed that CAB, which has heard too little from the PO in the past, will welcome participation.

In his letter to CAB Chairman L. Welch Pogue, Sullivan asserted that "one of the problems in which the Department is interested is the practicability of helicopter operations at our larger cities, such as Boston, Chicago, San Francisco, Kansas City, Los Angeles, New York, Philadelphia and St. Louis, and in the areas surrounding such cities. A representative of the Department was present at the prehearing conference which was held in the proceeding instituted by the Board in connection with applications seeking authorizations for property and mail service by helicopters in the Los Angeles area. We intend to continue our participation in this proceeding. We shall supply the data which the Board has already requested concerning the volume of mail. We shall also study the proposed helicopter operations in this area and furnish a witness at the hearing to present testimony on the manner in which the mail presently moves and the extent to which the mail service might be improved by the utilization of helicopter operations. We propose to participate similarly in proceedings which involve applications for helicopter operations in other cities and areas.

"The widespread use of air mail and the needs of the postal service for air transportation require that consideration be given to the desirability of establishing direct air mail service to additional smaller communities. For this reason, the Department views as most constructive the recent action of the Board in establishing temporary routes between Salt Lake City and Albuquerque and in the Denver area which are authorized for the transportation of mail."

Sullivan stated that the PO is also interested in the pending West Coast case and New England case but because all procedural steps in these cases have now been concluded and because the PO does not wish to do anything to delay the decisions, "we do not propose to take any action in these cases at this time."

He also noted that hearings have been concluded in the Texas-Oklahoma, Mississippi Valley, Great Lakes Area, Southeastern States and Middle Atlantic Area cases. After issuance of examiners' reports, the PO may ask to intervene to file exceptions or participate in oral argument, Sullivan said, adding that the same may be done in the North Central States case, in which an examiner's report was issued Feb. 28, 1946.

"The Department is now studying its interests in new route proceedings beyond helicopter operations and service to additional smaller communities which we have discussed in this letter. We intend to participate actively from their inception in future new route proceedings in which we have an interest . . . We wish to lend every cooperative assistance possible to the Board in the encouragement and development of an air transportation system properly adapted to the present and future needs of the postal service."

CAA Repair Base Plan Faces Battle in House

The Civil Aeronautics Administration's plan for operating its own aircraft repair service faces a tough legislative battle when the Commerce Department Appropriations Bill comes up for discussion on the House floor this week. Already weakened by a slash from a budget estimate of $2,035,000 to $1,500,000 recommended by the House Appropriations Committee, the CAA proposal is in for more jolting, with some industry observers confident it eventually will get the Congressional axe.

Meanwhile, John P. Morris, CAA aircraft control and service officer, last month declared that an appropriation of only $1,500,000 for the repair program would result in a definite curtailment of civil aviation functions planned by CAA during the coming fiscal period. Any cut from the $2,053,000 requested, he explained, will necessarily bring a decrease in the number of flight hours per plane, or a decrease in the number of planes in operation. This would mean, for one thing, fewer checks of federal airways facilities and civil airports by CAA personnel, he said.

In its report, the Appropriations Committee declared that approval of $1,500,000 was "on the premise that a portion of the planes should be grounded and held in reserve," which is taken as indication that the members were not convinced of CAA's need for a fleet of 231 aircraft.

Delivery— Donald W. Douglas (left) president of Douglas Aircraft Co., is shown with Arthur G. Woodley of Pacific Northern Airlines at the time of delivery of one of PNA's new Douglas DC-3s.

Land to Discuss New Phases

Vice Admiral Emory S. Land, president of the Air Transport Association, is to be guest of honor and principal speaker at the second annual international civil aviation luncheon of the aviation section of the New York Board of Trade in New York May 2. Admiral Land will discuss new phases of international civil aviation.

Eldon, Mo., Airpark Seen as Model of Community Planning

DEDICATION of the Eldon, Mo., Airpark on June 8-9 will culminate the first step in what airport authorities believe will prove to be a model of community planning for the proper development of aviation ground facilities.

The city of Eldon has signed a 10-year contract with Associated Airports, Inc., Kansas City, Mo., for operation of the airpark, but the agreement leaves the city free to develop the airport as it sees fit —regardless of the views of the lessee.

The city will maintain the landing area and publicly owned facilities and protect aerial approaches. The operator has agrred to pay $1 a year rent on the airport, $25 for use of the buildings and 2c a gallon on all gasoline sold. Associated Airports also must make available the airport's facilities to the public without discrimination.

These were other airport developments:

- San Francisco city planning commission approved a survey of the need and possible sites for a centralized joint airline transportation terminal. L. Deming Tilton, director of planning, will conduct the survey.
- Connecticut State Airport Commission and the Aircraft Service Corp., Lynwood, N. Y., have about completed arrangements for leasing of Bradley Field, war-time military airport near Hartford, Conn. The firm plans to enter aircraft conversion work.
- A citizen's airport advisory committee of Houston, Tex., has recommended that the city proceed with a $5,830,000 airport master plan, prepared by the director of public works.
- Mayor Woodall Rodgers of Dallas, Tex., said the city would ask airline operators at Love Field to bear a larger share of the approximately $50,000 annual maintenance costs, including operation of the control tower.

Legality of Bermuda Pact Under Scrutiny in Senate

Question is Passed on to Foreign Relations Group

By GERARD B. DOBBEN

FROM A legislative standpoint, America's international aviation policy has made another full circle.

The action of the Senate Commerce committee in declaring the Bermuda Civil Aviation agreement illegal because it has not been submitted to the Senate in the form of a treaty threw the controversial question back into the laps of the more friendly Foreign Relations Committee where ended a similar fight a year ago when the Senate Commerce Committee had the Chicago International Civil Air agreements under consideration.

While the Commerce Committee action was decisive in that 17 out of 18 members voted in favor of the resolution introduced by Sen. Owen Brewster (R., Me.) there were many indications that the action would not materially deter the State Department in its plans for consummating new bi-lateral agreements.

This attitude was brought out in Senate debate when the resolution and accompanying report were ordered printed as a Senate document over the objections of Sen. Alben W. Barkley (D., Ky.), the majority leader, and Sen. Scott Lucas (D., Ill.).

Opposition Senators succeeded in obtaining an agreement whereby the flyleaf of the report will state: "This document is printed solely as an expression of the opinion of the Committee on Commerce, and is not to be regarded as the action of the Senate." Sen. Barkley later pointed out, the resolution and report merely becomes an expression of the viewpoint of 17 members of a committee that does not have jurisdiction over the question.

The report stressed the committee's opposition to Executive agreements covering rights granted foreign international air carriers to U. S. coastal cities and some interior points on the grounds that this was a circumvention of the provisions of the Civil Aeronautics Act which requires CAB to conduct hearings to determine the question of public interest. The report said that the Executive agreements "which purport to oust the CAB of its responsibility and discretion to determine and transmit to the President its findings as to whether operation by a particular foreign-flag airline to the United States is in the public interest, are patently illegal."

The complete circle in this legislative controversy was accomplished when the Senate Commerce Committee set May 20 as the date to hold hearings on S. 326, Sen. Pat McCarran's amended bill to establish the All American Flag Line, Inc. McCarran's bill was amended to permit surface carriers to purchase a stock interest, including a 40% stock voting right, in the new company. Lengthy hearings previously had been held on the original bill which was voted down in committee on a tie vote.

Soon after the date of the hearings was announced, five government agencies and Departments—State, War, Commerce, CAB and the Interstate Commerce Commission—filed reports in opposition on the general grounds that a monopoly company was foreign to the American tradition of regulated competition.

4 Lines Get 7 Surplus C-54As for Training

Four domestic airlines have been allocated seven surplus Douglas C-54A transport aircraft for pilot training purposes on a six month lease basis at $2,000 each per month. United, TWA and Pan American received two each and Chicago & Southern one. War Assets Administration reserved the right to recall the planes on a 30 days notice after the leases have been in effect for 60 days if there is a sale for them.

WAA allocated a total of 26 two and four engine transport aircraft in its 30th and 31st allocations. The complete list follows:

Domestic

Douglas C-54A—United Air Lines, 2; TWA 2; Chicago & Southern, 1; Pan American Airways 2; William G. Downey (Viking Export Corp.) 2. Douglas C-54B—Air Transport Corp., New York City, 6; Transcontinental Air Express Corp. 1, and, if rejected, then to Aero Industries Corp., New York City; Douglas C-47B—(one each) Pacific Air Cargo Service, Inc., Los Angeles; Pacific Air Express, Santa Ana, Calif.; Capt. H. W. Harbican, Whitehaven, Tenn. and Wallace Air Service, Spokane, Wash.; Curtiss C-46E—Curtiss-Wright Corp. for continuation of an Army experimental and test project, 1; Consolidated PBY-5A—Walter Male, Middletown, Pa. 1, and, if rejected by him, then to the next applicant in order of precedence.

Foreign

C-54A—Swiss Air Transport, Ltd., Zurich, Switzerland, 2; C-54B—A. Fernando Stock, Lisbon, Portugal, 2, purchased through Victory Oil Co. of New York. These planes originally were allocated to Tasman Empire Airways, Inc., of New Zealand but were rejected by that company.

Yost Becomes Lockheed's Domestic Sales Manager

P. K. Yost, Jr., former eastern district manager for Lockheed Aircraft Corp., has been named to the new post of domestic sales manager. He will direct sales operations for all Lockheed commercial and military aircraft throughout the U. S., Canada and Alaska and will supervise field offices in New York, Washington, Dallas, Chicago, Dayton and Montreal.

Yost

Rodgers Donaldson, former assistant manager of the eastern district, succeeds Yost as eastern district manager in New York. Robert Bias becomes Washington manager and W. Gifford Myers becomes Dayton manager.

New Markings—United Air Lines' stewardesses, Mary Beatty (top) and Carol McDonald, inspect a transport model with new markings as they will appear on the DC-6, which United has named the Mainliner 300. The company has adopted names for its transport planes designating the approximate speed of the craft. United's C-54s are known as Mainliner 230s, 44-passenger planes now on transcontinental and West Coast runs. The DC-3 has become the Mainliner 180. The 52-passenger Mainliner 300s are scheduled for delivery this summer.

Passage of Airport Bill With Ten-Vote Margin Predicted in Senate

Following another series of postponements, the Senate voted to take up the conference report on the $500,000,000 Federal Airport bill on April 30. Proponents of the measure predicted it would carry by around 10 votes.

Meanwhile the Civil Aeronautics Administration released figures revealing the amounts that would be allocated to projects, by states if the conference report now before the Senate is adopted.

Of the $500,000,000, 5% or $25,000,000 would go for administrative expenses. The discretionary fund of 25%, amounting to $118,750,000, would be used by the administrator for allocating money to projects in those states where the need for airport development was greatest, taking into consideration the relation of this need to the national airport plan.

The remaining $356,250,000 would be allocated to allowable projects within a state on the following area and population basis: Alabama $6,893,546; Arizona $7,392,232; Arkansas $5,780,169; California $18,744,576; Colorado $7,671,269; Connecticut $2,619,216; Delaware $483,590; Florida $6,031,179; Georgia $7,717,176; Idaho $5,638,213; Illinois $14,061,652; Indiana $6,799,533; Iowa $6,768,153; Kansas $7,297,865; Kentucky $6,249,852; Louisiana $6,073,872; Maine $3,109,525.

Maryland $3,099,660; Massachusetts $6,355,949; Michigan $10,577,613; Minnesota $8,751,281; Mississippi $5,781,455; Missouri $9,252,235; Montana $9,432,479; Nebraska $6,341,180; Nevada $6,664,746; New Hampshire $1,216,654; New Jersey $6,118,274; New Mexico $7,893,672; New York $21,249,005; North Carolina $7,962,888; North Dakota $5,037,571; Ohio $11,821,546; Oklahoma $7,297,561; Oregon $7,197,335; Pennsylvania $16,132,735; Rhode Island $1,041,463; South Carolina $4,413,380; South Dakota $5,415,098; Tennessee $6,454,411; Texas $24,478,073; Utah $5,752,896.

Vermont $1,054,757; Virginia $6,406,380; Washington $6,379,645; West Virginia $4,011,198; Wisconsin $7,575,602; Wyoming $6,111,640.

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TWA and Italian Contract Under Study at State Dept.

Official Statement Follows Strong British Protests

BRITISH PROTESTS over the contract between TWA and the Italian government for operation of internal Italian air routes brought forth a statement from the State Department last week indicating that at the present stage of discussions the Department was not supporting the TWA agreement, but was consulting with the Army and Navy before making a final decision.

The British have insisted that they should have 50-50 participation in the Italian company, but TWA President Jack Frye said bluntly that his company was not interested in entering into "a business partnership with the British government."

The State Department, in a statement to the Senate Commerce Committee, inferred that the "exclusive and monopolistic nature" of the TWA-Italian contract might not be in harmony with some U. S. economic and trade policies. It said it was protesting similar features of British control of the Italian chemical industry, and was also opposed to Russian policy "in regard to the organization of civil aviation companies in the Balkans. The Russians are organizing such companies with the same features of monopoly and exclusivity as are involved in the TWA contract, although on paper they do not appear as exclusive as the TWA contract."

However, the Department indicated that the opinion of the Army and Navy would to a great degree control its final decision in the matter.

Frye said at a press conference that he thought the Italian government would proceed to activate its contract with TWA. He expressed the opinion that the British would either withdraw their objections, when they realized the difficulties of a joint operation, or would be overruled.

Frye released a summary of all events leading up to the signing of the contract, under which TWA holds a 40% interest in the Italian company (Linee Aeree Italiane). The other 60% is equally divided between the government and private interests. TWA's financial interest amounts to $400,000.

The summary pointed out that the Combined Chiefs of Staff approved the Italian government's request to engage in civil aviation without any qualifications as to who should participate in the Italian company. The Italian government was then free to enter into a "simple, straightforward commercial arrangement" with an American company, it said.

British protests, the summary said, did not become evident until the contract had become effective (Mar. 20, 1946, when the Allied Control Council in Rome formally notified the Italian government of the Combined Chiefs of Staff decision). On Apr. 2 a note was delivered to the Italian government in which the British insisted on participating through British Overseas Airways with a 20% interest. Italy was asked to take no further steps to activate the agreement.

(Statements from London last month that a "secret" Bermuda agreement was violated when TWA signed the contract are far from the truth. The matter was discussed in a committee at the U. S.-British aviation conference in Bermuda, with the British indicating a desire to participate in an Italian company. The committee report was "noted" by the full conference, but there was no formal action or agreement.)

Frye emphasized that TWA had no objection "to the formation of another Italian airline with British participation" which would be able to offer competition on any or all routes. However, he opposed British participation in the TWA enterprise, saying that "we're not anxious to get into any losing businesses."

British participation, it was said, would make the arrangement "unwieldy, inefficient and uneconomical. They would no doubt insist on partial use of British equipment, personnel, methods, etc. These differ so widely from American practices that it would be next to impossible to reconcile them in one company."

The TWA statement also said that "it is generally known that there is a great difference between the manner in which air transport has developed in the U. S. and . . . in British territories. U. S. air carriers have perfected equipment, developed management, operational and technical procedures largely on their own with the objective of giving service to the public and making a profit for their owners. U. S. air carriers have been little influenced in their development and progress by any political or strategic considerations."

NACA Appointees—Two industry men—Arthur E. Raymond, (left), president of the Institute of the Aeronautical Sciences and vice president in charge of engineering of Douglas Aircraft Co., and Ronald M. Hazen (right), chief engineer of Allison Division, General Motors Corp., have been named by President Truman to fill vacancies on the National Advisory Committee for Aeronautics. They succeed Dr. William F. Durand of Stanford University and Edward Warner, former CAB vice chairman, now PICAO president.

Barrie Resigns WAL Job To Join Alvin P. Adams Firm

Barrie

Col. A. A. Barrie, assistant to C. N. James, vice president - operations of Western Air Lines, has resigned to join Alvin P. Adams and Associates, aviation consultants in Los Angeles. In his new work, Barrie will augment the firm's activities in the field of airline operating problems. He spent 17 years with Western and three years with ATC.

Airport Limousine Operators From 29 Cities Form Associaton to Solve Mutual Problems

Following a meeting in Washington last month, airport limousine operators from 29 cities in the U. S. and Canada have formed the Airline Ground Transportation Association through which they hope to discuss and solve their mutual problems.

Headed by John P. Carey, president of Carey Airport Service Inc., which operates all limousines to La Guardia and Newark airports, AGTA hopes eventually to take into membership all limousine operators in the U. S.

Number one problem on the limousine operators' list at the present time is equipment. The strikes in the automotive industry and allied industries have delayed by many months the procurement of new limousines. This, plus the fact that the airlines have put larger-capacity Constellations and DC-4s into service on what the limousine operators claim was short notice to them, have resulted in serious limousine problems at many points.

Also facing these operators are the problems of fares, improvement of service and achievement of uniformity of service, which they believe can be more adequately solved through AGTA. Closer cooperation with the Air Transport Association will also be possible, they believe.

Serving on a committee under Carey are Clewell Sykes, of Yellow Cab Co., Philadelphia; John Montana, Van Dyke Airport Service Inc., Buffalo, N. Y., and George W. Simons, Jr., Airport Transport Inc., Washington, D. C.

Present AGTA members are: Airdrome Transport Inc., Los Angeles, Calif.; Airlines Cab Co., Colorado Springs, Colo.; Airline Transportation Co., Pittsburgh, Pa.; Airport Transport Inc., Washington, D. C.; Airport Limousine Service Jacksonville, Fla.; A. E. Aldridge Taxi Service, Syracuse, N. Y.; Arizona Tours Inc., Phoenix, Ariz.; Atlanta Baggage & Cab Co., Atlanta, Ga.; Blue Bird Air Service Inc., Chicago, Ill.; Cadillac Livery, Toronto, Canada; Checker Cab Manufacturing Corp., Kalamazoo, Mich.; Clifford Taxis, Albuquerque, N. M.; D. H. A. Airline Passenger & Transportation Co., Detroit, Mich.; The Gray Line, Inc., San Francisco, Calif.; Independent Cab Limo, Richmond Va.; Murray-Hill Taxis Ltd., Montreal, Canada; Parmelee Transportation Chicago, Ill.; Public Service Corp., St. Louis, Mo.; Red Top Aero Car, Miami, Fla.; Salt Lake Transportation, Salt Lake City, Utah; Smoky Mountain Tours, Asheville, N. C.; Mr. Sutcliffe, Boston, Mass.; Tanner Motor Livery, Los Angeles, Calif.; Town Taxi Service Corp., Rochester, N. Y.; Toye Brothers, New Orleans, La.; Van Dyke Airport Service Inc., Buffalo, N. Y.; Wood Auto Livery, Indianapolis, Ind.; Yellow Cab Co., Cleveland, O.; Yellow Cab Co., Denver, Colo.; Yellow Cab Co., Kansas City, Mo.; Yellow Cab Co., Philadelphia, Pa.; Yellow Cab & Baggage Co., San Antonio, Tex.

National Affairs and Congress

Pogue to Open Law Office

L. Welch Pogue, chairman of the Civil Aeronautics Board, who has resigned effective early in June, will open his own law office in Washington, D. C., he has revealed. He will specialize in aviation accounts.

Merger Bill Approved

The Senate Military Affairs committee on April 23 approved by a 10 to 1 vote an Army and Navy merger bill which would establish a single department of common defense under a single cabinet officer. The measure would eliminate the present secretaries of the War and Navy Departments. Sen. Styles Bridges (R., N. H.) introduced April 22 S. 2102—a bill which would establish a new cabinet office of Secretary for Air, create a council of common defense including the Secretaries of State, War, Navy and Air, and establish on a permanent basis the war-time joint chiefs of staff. Bridges is a member of the Military Affairs committee.

ATC Faces Personnel Shortage

Lt. Gen. Harold L. George said Air Transport Command operations in the Pacific may be discontinued during May unless a critical personnel shortage is overcome. ATC has conferred with United Air Lines Pacific division in an effort to secure additional personnel from the commercial carrier to keep the routes open.

To Explore Super Speeds

Navy Bureau of Aeronautics is developing high-speed aircraft calculated to explore aerodynamic phenomena at speeds approaching the velocity of sound. The research project is under development at Douglas Aircraft Co., El Segundo, Calif.

ATA Opposes Integration

Air Transport Association has filed a brief with the House Foreign and Interstate Commerce committee taking a firm stand against integration of transportation and in favor of continued independent operation and ownership of the different modes of transportation.

P-80 Knocks Over Records

Lockheed's jet-propelled P-80 continued to knock off speed records. These were some of its accomplishments:

Flew from New York to Washington, D. C. in 29 minutes, 15 seconds, the 226-mile flight being timed by NAA. The previous inter-city record was 58 minutes, 38 seconds, set in 1938 by Alexander de Seversky.

Flew from Washington to Wright Field in 60 minutes against strong head winds. Capt. Martin L. Smith, the pilot, said he was after no speed record. He was the pilot on the New York-Washington record-breaker.

Flew from Seattle to Los Angeles in two hours, 13 minutes. The distance: 860 miles. Capt. Mark A. Mitchell of the 20th Air Force fighter squadron, was the pilot.

Consolidated 'Airman's Guide'

Civil Aeronautics Administration has begun distribution of its first consolidated *Airman's Guide*. a publication for certificated airmen actively engaged in flying. The publication will be released every two weeks, and incorporates notices to airmen, directory of airports and air navigation radio aids.

New Edition of Handbook

Civil Aeronautics Administration has published a new edition of *Statistical Handbook of Civil Aviation*, which includes chapters on airports, airways, domestic air carrier operations and accidents, international and territorial operations and accidents, aircraft and airmen certificates, aircraft production and exports.

Lockwood Succeeds Stelle

Ralph G. Lockwood, formerly of the AAF and assistant chief of staff in charge of operations for the Pacific division of the ATC, has been named chief of maintenance and salvage of War Assets Administration. He succeeds Stanford J. Stelle.

Would Spot-Check Pilots

The House Appropriations committee, in a report to Congress, has recommended that the Civil Aeronautics Administration draft regulations to provide spot and surprise tests of pilots to determine their physical condition just before a takeoff. The committee charged there was too much drinking among pilots and that a pilot who had been drinking the night before was not in condition to assume responsibility for a load of passengers the next morning.

Fight for CAA Bill

A determined fight was to be made in the House on April 30 to restore in the CAA appropriation bill the $3,060,582 item for CAA operation of 110 airport-traffic control towers. Three House members—Carl Stefan (R., Neb.), a member of the Appropriations committee; J. Percy Priest (D., Tenn.) and Carl Hinshaw (R., Calif.), members of the House Interstate and Foreign Commerce committee, said they would offer amendments to restore the item in the bill. Elimination of the item has caused a storm of protests to be sent to members of Congress.

Report on 5c-Mail Bill Expected

The House Post Office and Post Roads committee early in May will report out a bill to reduce the domestic air mail rate from eight to five cents an ounce. Hearings were held on several bills two weeks ago and there was general agreement in the committee that such a bill should be reported favorably to the House. Rep. Charles E. McKenzie (D., La.), a member of the committee, plans to introduce soon a bill which prvides for the inauguration of air mail parcel post.

Sinclair Succeeds Herman

Acceptance of the resignation of M. Justin Herman as assistant administrator for aviation training and appointment of Howard W. Sinclair as his successor was announced by the Civil Aeronautics Administration. Sinclair joined CAA in 1942 and has been assistant to the head of air education activities for several years. Herman will go to San Francisco to direct the northern California program of the National Housing Agency.

Foreign Lines Join Arinc

Air France and SILA, the Swedish intercontinental airline, have joined Aeronautical Radio, Inc., the non-profit airline communications organization, and British Overseas Airways Corp. is expected to join very soon, according to Del Rentzel, president.

AAF Asks Research Funds

The Army Air Forces has revealed plans for asking Congress for a $300,000,000 appropriation for acquiring a site and initial construction in a billion dollar air engineering development center. Maj. Gen. Curtiss E. LeMay, deputy chief of Army air staff for research and development, has stated it would take 10 years merely to build all of the planned facilities. The program encompasses such projects as harnessing of light rays for destructive purposes.

Corsair With Turbo-Supercharger—An effective combat ceiling above 40,000 feet characterizes the Chance Vought XF4U-3, an experimental Navy fighter. Developed from the F4U-1 Corsair, the XF4U-3 is powered by a Pratt & Whitney R-2800-C engine in combination with a turbo-supercharger, and is fitted with a Hamilton Standard propeller. Air for the turbo-supercharger is drawn through a scoop under the engine accessory compartment. Increased top speed and improved maneuverability at higher altitudes are features of the XF4U-3.

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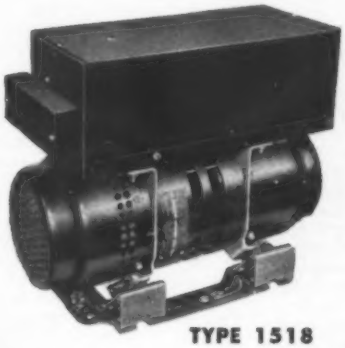

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New Norwegian Line, DNL, Operates Extensive Services

Balchen and Per M. Backe Direct Expanding Company

By FRANK M. HOLZ

EXTENSIVE DOMESTIC and international services are already being operated by Det Norske Luftfartselskap (DNL), a new private airline approved by the Norwegian Parliament Feb. 15, according to Bernt Balchen, noted Arctic flyer and recently a colonel in the USAAF. Balchen and Per M. Backe are joint managing directors of the new DNL, which succeeds a prewar company of the same name. Equipment, routes and personnel are being taken over from Royal Norwegian Air Transport, a government emergency airline created in 1943 and now about 80% liquidated.

Balchen

DNL has a 20-year concession for all Norwegian scheduled services. The airline flies between Oslo and London, Amsterdam, Stockholm, Copenhagen, Zurich, Prague. This month DNL will start three trips weekly on the route Oslo-Kristianssand-Amsterdam-Brussels-Paris, operating in pool with KLM Royal Dutch Airlines.

Most of DNL's international services are pooled with other European airlines. Pooling is a well-established procedure which is in Europe to stay, Balchen told AMERICAN AVIATION. Division of traffic, schedules and revenue is accepted as standard practice.

Scandinavian Airlines System, the first postwar transoceanic pool, may be formalized this month. Participants will be DNL, the Swedish airline Svensk Interkontinental Lufttrafik (SILA) and Det Danske Luftfartselkab (DDL) of Denmark.

DNL expects to begin Oslo-New York services with two new DC-4s sometime this summer. It has 10 DC-3s and 11 Junkers Ju-52 trimotor aircraft, eight of the latter on floats. Balchen stated that the Junkers, despite their age and slowness, are still the most ideal of all available aircraft for certain local routes along Norway's fjord-indented coastline. However, rough water sometimes holds up operations and Balchen intends to standardize on landplanes to attain regularity of schedules.

The Germans left a number of fine airfields, although use of some of them will be delayed until mines have been removed—an estimated two-year job. All necessary work has been completed at the designated international airport at Oslo.

International fares will follow recommendations of the International Air Transport Association. For domestic rates DNL will use a "sliding scale" whereby fares are lower per plane-mile as the distance increases. However, fares will be kept above those of surface carriers between the same points. The rail route between Bergen and Oslo, for example, is so circuitous that even the highest "sliding scale" airline fare would be cheaper than rail travel.

The greater part of an authorized DNL capitalization of 35,000,000 kroner ($7,000,000) has been subscribed. The government is the largest subscriber with 5,000,000 kroner and probably will take up an additional 5,000,000.

PICAO Studies Design Standards for Future Passenger Transports

Standards for the design and manufacture of passenger transport aircraft built after Jan. 1, 1951, were submitted to the Provisional International Civil Aviation Organization (PICAO) in the first report of the airworthiness division during the recent Council session which recessed April 19 to permit delegates to attend the PICAO regional conference now being held in Paris.

The division stated that 1951 was selected as the effective date to avoid "injustice to manufacturers who have new aircraft in course of design or construction." The standards apply only to passenger transports operating in scheduled international services. Only multi-engined equipment may be used and the aircraft must be able to maintain safe operations in the event of an engine failure under any conditions, including takeoff.

Methods for testing and measuring engine performance were also drawn up to provide a uniform international standard for judging engine reliability.

The Council decided that the major work of the first meeting of the PICAO Assembly in May is to be conducted through six commissions: General policy, air navigation (technical), financial aid, legal subjects, administration and finance, air transport (economic).

The air navigation committee approved a number of the recommendations of the recent Dublin conference, including provision of a network of 13 weather ships.

Sir Frederick Bowhill, British Council delegate, and Gerald Brophy, U. S. delegate, will relinquish their Council posts at the end of the Assembly meeting.

Empire Pacific Line To Fly Sydney-Canada

Formation of a South Pacific Air Transport Council and a tripartite government airline were the chief decisions of Great Britain, Australia and New Zealand at a recent Empire air conference held at Wellington. The airline was registered in Sydney as British Commonwealth Pacific Airlines and shares will be held as follows: Australia, 50%; New Zealand, 30%; Great Britain, 20%.

Chief BCPA operation will be to Canada on the route Sydney-Fiji Is.-Canton I.-Honolulu-San Francisco-Vancouver. Canada participated in the Conference but declined to join the Council. Trans-Canada Air Lines will operate a separate parallel service.

The Conference "suggested" that Australian National Airways operate until BCPA could take over, but Australian Air Minister A. S. Drakeford stated that no contract carrier has yet been named. Scheduled service is to be started simultaneously by BCPA (or its contract operator) and Pan American Airways upon the signing of a U. S.-Australia air agreement.

Britain, Ireland Form Air Transport Company

Aer Lingus T.T.A. has been formed as a joint British-Irish airline almost simultaneously with the signing of an air transport agreement by the governments of Eire and the United Kingdom.

Capital of the new company is 1,000,000 pounds sterling (over $4,000,000) with 60% to be held by Aer Rianta, an agency of the Eire Government, and 40% by British Overseas Airways Corp. The new company will operate all Irish services to Great Britain and the continent of Europe. Announcements have not as yet clarified the status of Aer Lingus Teoranta, hitherto the only Irish scheduled airline, which currently operates within Eire and on routes to England.

The Eire—U. K. agreement adopts the International Air Transport Association (IATA) rate procedures and the British quota system for capacity and schedules, according to reports. In general, the document is said to follow closely the recent agreement signed by Great Britain and France.

Arab Airways Formed in Trans-Jordan

Arab Airways Association has been formed in Trans-Jordan to operate scheduled and charter services. The group has ordered de Havilland Rapides and Tiger Moths, it is reported.

TACA Signs Mail Contract

TACA Airways has announced that it has signed a two-year contract with the Cuban Government to carry air mail from Cuba to the following countries: Mexico, Guatemala, British Honduras, El Salvador, Nicaragua, Honduras, Costa Rica and Panama.

U. S. to Provide Weather Ships

The U. S. will provide several of the 13 weather ships for the North Atlantic recommended by the recent PICAO regional conference held at Dublin, according to D. M. Little, assistant chief for technical services, Department of Commerce. The U. S. Coast Guard will provide vessels and crews. Meteorological personnel will be assigned by the Weather Bureau.

Takes Shares in Australian Line

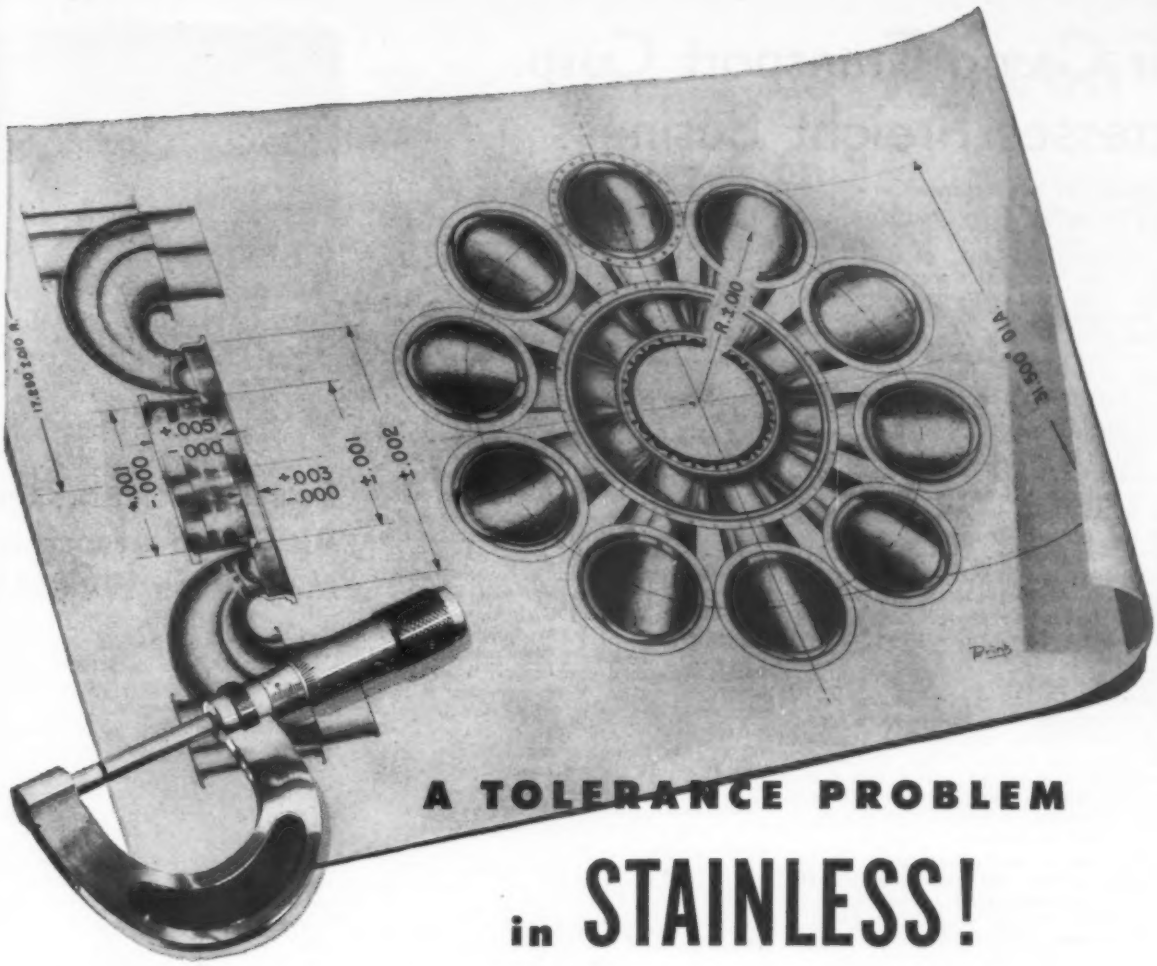
Hunting Aviation Management, Ltd., a British company, has taken up 5000 of 5500 new shares of Victorian and Interstate Airways, Ltd., an Australian enterprise. N. F. Innes has been appointed as a director to represent the British interest.

KLM Starts Amsterdam-NY on May 21

KLM Royal Dutch Airlines will start its Amsterdam-New York service May 21, it was announced by Capt. Frederick Meuser, U. S. representative, on the occasion of delivery by Douglas Aircraft of the airline's second DC-4.

Peru Ratifies Convention

Peru has ratified the Convention on International Civil Aviation. Venezuela has accepted the Transit (Two-Freedom) and Transport (Five-Freedom) agreements and became the 44th member of PICAO through acceptance of the Interim Agreement.



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Air Cargo Transport Corp. Stresses Freight Business

Biggest of Newcomers Has Detailed Rate Structure

AS NON-SCHEDULED operators go, Air Cargo Transport Corp., has risen into the big time virtually overnight. With headquarters in the Empire State Building, New York City, ACTC even has a teletype system and its cargo rate structure is worked out in minute detail with a base rate of 20c a ton mile for 5,000 lbs.

It is concerned only with cargo—and it feels that it's in business permanently. It has taken advantage of the lagging interest in cargo on the part of CAB-certificated airlines and is offering a wide variety of services between almost all points in the country.

In size it is one of the biggest of the newcomers in the field—170 employes including 20 pilots or 10 full crews, 13 Douglas C-47 cargo planes and two Lockheed Lodestars.

It is well organized into the following departments: administrative, traffic, research, operations, dispatch, meteorology, aircraft and engine maintenance, radio maintenance and cargo loading. Its main offices bustle with activity. It avoids the spectacular cargo stunts which feature some of the other operators—it is paying strict attention to business.

In the mind of Jack Barrington, general traffic manager, the greatest problem facing the non-scheduled cargo carrier is in convincing the average business executive that cargo shipment by air is here today and not a promise for the future.

ACTC's prepared table of basic rate charges is interesting, for it reflects considerable study of potentials. The 20¢ a ton mile rate is applicable only on 5,000 lb. lots and the general formula applies from Newark to 81 points in the United States. Company officials caution that the rates used herewith do not constitute an offer, but form the basis for quotations when contracts are being negotiated.

ACTC began operations a year ago March 1, but have been in high gear only in the past six months. It believes it will stay in business on the basis of service it has rendered to customers.

As an example of the service it is performing, Barrington said that recently a cargo of 6,500 dresses had been flown from the east Coast to California in a C-47 at a cost of 16c a dress. This would be at a total charge of $1,040, for the one way shipment.

In addition, the company has contracts to carry regularly late morning editions of the New York *Times* and the New York *Herald Tribune* to Washington. To eliminate the necessity of dead-heading back, Air Cargo has these planes continue on to Raleigh and Richmond where they pick up cargoes of flowers for return to New York. These contracts for return cargoes are made on a six weeks basis to insure flexibility in operations.

In some contract operations, to insure the customer good service, Air Cargo through its teletype communication system, arranges for the consignee to have trucks at designated airports when the planes arrive or it makes arrangements with private trucking concerns to complete delivery by ground transportation when such service is requested.

Air Cargo has four CAA licensed dispatchers, four CAA licensed meteorologists and they in turn have their assistants so that a 24-hour day operation is assured. A former captain of paratroopers is the company's loadmaster. He is an important cog in the operations for proper loading and distribution of weight. The company's principal operating base is at Newark Airport.

Barrington's service in the Navy has given him a valuable background for the work that he is now doing.

H. Roy Penzell, president of the company, is a pilot, and active in the affairs of the company. He was a wing commander in the Civil Air Patrol, engaged in submarine patrol activities out of Miami. Col. Harvey Miller, vice-president in charge of operations, is a former Army pilot. Thomas Riley is secretary-treasurer and Matthew Adams, former lieutenant colonel in the Army, is assistant to the president.

Asked what the company desired in the way of a cargo airplane, Barrington stated: "A plane as economical as the C-47 with the ability to carry double its present pay load."

Air Cargo Transport Corp's Basic Rate per Mile (Domestic Service)

Weight	1000 lbs. to 1999 lbs.	2000 lbs. to 2999 lbs.	3000 lbs. to 3999 lbs.	4000 lbs. to 4999 lbs.	5000 lbs.
One lb.	.000125	.000120	.000110	.000105	.000100
100 lbs.	.0125	0120	.0110	.0105	.0100
2000 lbs.	.....	.24	.22	.21	.20
Basic Rate per Mile (Foreign Service)					
One lb.	.000250	.00240	.000220	.000210	.000200
100 lbs.	.0250	.0240	.0220	.0210	.0200
2000 lbs.	.50	.48	.44	.42	.40

Typical Rates per 100 lbs. Between Newark and

	Airway Mileage	1000 lbs.	2000 lbs.	3000 lbs.	4000 lbs.	5000 lbs.
Akron, Ohio	383	$4.79	$4.60	$4.21	$4.02	$3.83
Atlanta, Ga.	760	9.50	9.12	8.36	7.98	7.60
Bismarck, N. D.	1409	17.61	16.91	15.50	14.79	14.09
Berkeley, Calif.	2561	32.01	30.73	28.17	26.89	25.61
Fort Worth, Tex.	1399	17.49	16.79	15.39	14.69	13.99

Chennault to Fly UNRRA Food

Maj. Gen. Claire L. Chennault is forming an air unit to fly UNRRA food and medical supplies to China's famine areas. It is reported that Chennault is seeking personnel who were formerly under his command in the Flying Tigers and the U. S. 14th Air Force.

Kingsair Officials—Officials of Kingsair Transportation, Inc., recently formed charter service corporation, are shown, left to right: Carl Hallin, secretary and treasurer; Norman L. Mitchell, pilot; R. W. Love, Jr., pilot; and Donald J. King, president.

Coast Operators Form Air Cargo Associates, May Work With IAT

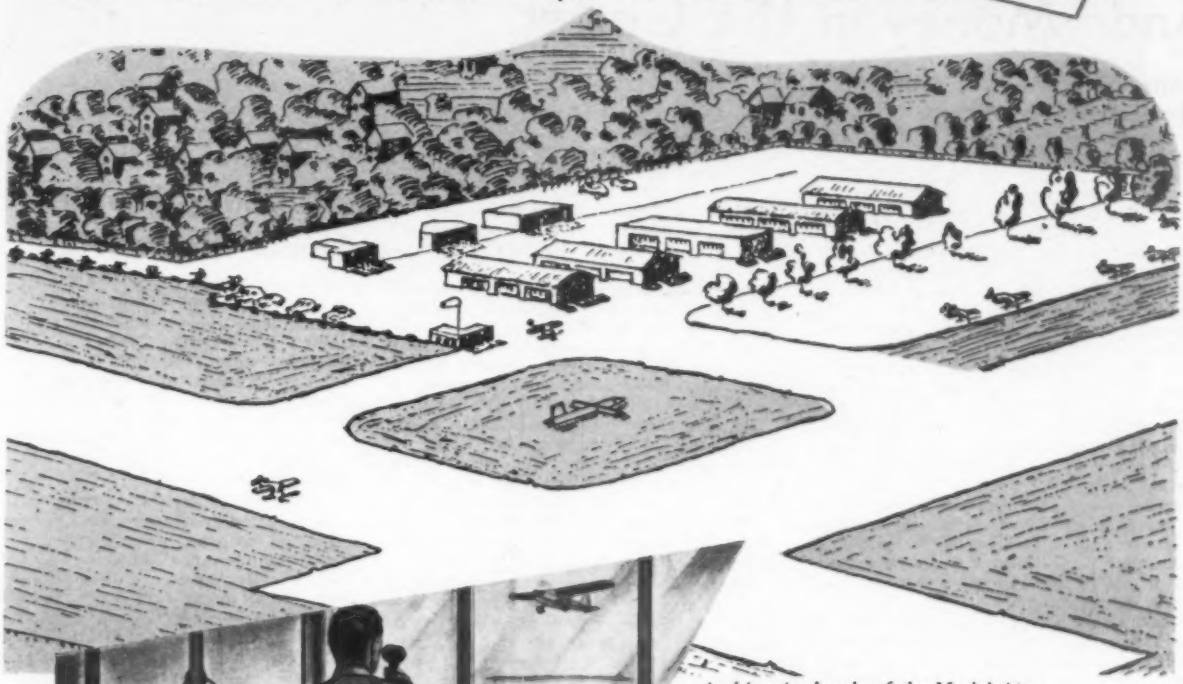
Air Cargo Associates is the name West Coast uncertificated cargo operations have chosen for their newly formed association. Howard Payne, director of the air freight division of United States Aviation Corp., who was instrumental in bringing the group together, was named president. J. J. O'Brien of California Eastern Air Lines of San Francisco, was elected first vice president, and H. C. Buckland of Sky Van of Long Beach was elected second vice president. Malcolm Eno of United States Aviation Corp. was appointed secretary-treasurer pending election of a permanent officer to the post.

Non-scheduled operators who have been attending the organization meetings of the group include Golden Gate Air Lines, NATS Transportation Service, California Eastern Air Lines and Continental Sky Van, all of the San Francisco Bay area; National Air Cargo of Los Angeles; Pacific National Air Express of Glendale; and Fireball Air Express, Sky Van and United States Aviation Corp. of Long Beach. Northwestern Air Freight of Seattle also has signified its intention of joining. The lines represented have 39 planes—C-47's and C-54's—in operation.

Although the West Coast association has been formed as an independent group, it may subsequently decide to become a Pacific Coast unit of the Institute of Air Transportation recently formed in the east. Howard Payne, president of Air Cargo Associates, attended the meeting of the Institute of Air Transportation in New York and will make a report to the West Coast membership at the next meeting.

"We intend to work in close harmony with the Institute of Air Transportation," said Payne. "Our aims are similar and it is obvious that a national organization has many advantages. On the other hand, geographical differences may make it advisable to have our own independent organization. This decision will be made by the membership after all of the points have been assayed."

The *"Nation's Model Airport"* Selects Aireon



Architect's sketch of the Model Airport under construction at Eldon, Mo.

The Ideal Radio Station for Small Airports

Aireon RS1 Airport Radio Station has been selected to equip the airport at Eldon, Mo., which has been designed as a model for the nation's future small-community air parks. Compact, economical to purchase and install, simple to operate, the Aireon 50-watt transmitter station is ideal for small airports anywhere. It can be operated by push-button control by ordinary airport personnel without radio training as a point-to-point, ground-to-plane, or as a control tower station. Either local or remote control is available without major alterations.

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Empire Airlines Has a Goal And—Money in the Coffer

Alfange's Line Will Apply For Federal Certificate

OF ALL THE new non-certificated air services that have started up since V-J Day, a few are well financed and know precisely what they want to do. Empire Airlines, Inc., of New York City, is one of those that has the financing in the company coffer and knows specifically what it wants without any pretentious ambitions beyond that goal.

Empire currently is an intra-state scheduled carrier exclusively operating direct flights from La Guardia Airport to about nine points in upstate New York. (Empire has no relation to Empire Air Lines of Idaho.) It is headed by Dean Alfange, an attorney who ran for lieutenant governor of New York in a recent election.

Empire shortly will apply to the Civil Aeronautics Board for a federal certificate. It knows full well that it is operating now under an interim CAB waiver and that if the CAB wishes to exercise its powers, it probably can do so. Empire's operations are strictly interstate but it also knows that the Federal government has wide jurisdiction over common carriers.

But Empire figures that its chances of obtaining CAB authorization would be greatly enhanced if it could go into the hearing with facts and figures based on actual operations.

It is operating a fleet of eight twin-engine Cessnas, each plane carrying four passengers. It is charging between 7 and 7½ cents per mile and has been carrying about 400 passengers per week with relatively few empty seats.

Daily schedules are operated direct to such points as Utica, Schenectady, Binghamton, Elmira, Jamestown, Watertown, Plattsburg and Glens Falls. Service to Malone, Troy and Ogdensburg is contemplated. Direct flights eliminate the necessity of blocking out seats for intermediate stops and simplifies the whole booking procedure.

That Empire is in the business seriously is attested by its order of six twin-engined eight-passenger Beech 18-C transports and it may increase this order shortly. The first Beech is due for delivery the first week of June and the remainder later that month.

Empire pays its pilots $400 a month and insists on their having 2500 hours of flying time with much of that on transports. One hundred hours of instrument time are required at the start. Training is now in progress for the Beech planes and a Link trainer school is in operation. Vincent Sproul, former Northeast Airlines' pilot, is chief pilot. Empire has 11 pilots now and will have 20 captains and 20 first officers to handle the Beech schedules.

Mar. 14 saw the actual start of full operations and today the company has 50 employes. No communications system is being maintained presently.

Full insurance coverage is being maintained and the company is using the CAB's 2780 forms for its own records, hoping to convince CAB that it has followed CAB practices all the way through.

Bendix Radio has engineered all the radio for the Beech transports and has fitted everything onto a single panel.

Empire Air Freight has been created as a subsidiary but the company has been unable to fill cargo and express demands because of limited facilities in the Cessnas. Various New York newspapers have offered substantial business.

Alfange thinks there is a great potential demand for service connecting many upstate communities with New York. Jamestown, he points out, is but an hour and a half from New York via Empire and 13 to 14 hours by rail. Many of today's passengers are one-day travelers, i.e., they go to New York in the morning and return in the afternoon. Demand from upstate and from New York has been running about even and some schedules are booked a week in advance.

General traffic manager is Everett A. Eisenberg, an ATC pilot during the war on the Crescent run and earlier a Liberator pilot in the Pacific. Monte Calliman, Jr., is superintendent of maintenance.

Financing has been private with no brokers involved. Harry Brandt, prominent theater chain owner, is chairman of the board's executive committee. Board members include such men as George J. Schaefer, former president of United Artists and RKO; Maurice P. Davidson, member of the New York State Power Authority; George P. Skouras, president of Skouras Theatres Corp.; Joseph Pulvermacher, president of Sterling National Bank and Trust Co., and others in New York business life.

Alfange says Empire has no ambitions to become a big operator or to meander far away from its New York territory.

—W. W. P.

Contract Maintenance May Solve Problems of Uncertificated Outfits

Propositions under which non-scheduled uncertificated air operators would get their maintenance done by outside agencies were presented to the Institute of Air Transportation meeting in New York on Apr. 15 by three firms which stated that they will be in a position to do such work. IAT is an association formed by the non-scheduled cargo and passenger operators.

There was a general feeling among operators attending the meeting that in most cases it will be necessary for them to have maintenance done by an outside agency. In most cases, these operators have small fleets (some owning only one or two planes) and the cost of establishing their own maintenance bases and staffing them with competent personnel would be prohibitive.

Aircraft Service Corp., located at Bradley Field, near Hartford, Conn., presented a statement to the meeting pointing out that standardized maintenance procedures will be very desirable to the non-scheduled group and that these can best be offered, and at the lowest price, by an outside organization. Aircraft Service Corp. is headed by John W. Kenny, former president of Columbia Aircraft Corp.

Frank H. Raymond & Associates, 2 Rector St., New York, also pointed out the necessity for a centralized maintenance organization. Raymond proposes major overhaul at four main bases in the U. S. It was said that a utility holding corporation is interested in underwriting the project.

Sherman Associates, which is working in connection with Texas Engineering and Manufacturing Co., indicated that shortly after May 1 they expected to be able to offer production line maintenance in their shops at the North American Aviation plant near Dallas, Tex. The company has a proposal under which non-scheduled airlines could exchange their engines for newly-overhauled ones. Facilities for converting airplanes will also be available (work is now being done on PCA and Northeast Airlines' planes). It was pointed out that the company will be able to offer a centralized purchasing organization which would result in savings to operators.

Pacific Air Lines, which began intrastate operations between Los Angeles and Sacramento, has applied to the CAB for routes to Seattle, Las Vegas and Reno. The company is recapitalizing to increase the number of common shares from 200,000 to 1,000,000 for purposes of expansion. Charles A. Potter has joined the company as director of engineering and maintenance.

Luxurious comfort is provided in roomy Stratocruiser berths

Slumber in the sky

Here's restful sleep for air travelers! Above the weather in a peaceful sky full of stars, aboard a smooth-riding Boeing Stratocruiser.

Long, deep, comfortable berths with smooth linen and soft blankets . . . and fresh air at just the right pressure and temperature at any altitude.

Passengers will be able to reach almost any destination overnight, flashing across the United States, or towards London, Hawaii, Stockholm or Shanghai at more than 5 miles a minute.

By early 1947, such flights will be a regular feature of travel. Stratocruisers, engineered with the same rugged dependability as the Boeing B-29, are now being built by Boeing for major airlines.

In sleeper versions of the Stratocruiser, berths are 7 inches wider, 2 inches longer than in a standard sleeping car.

There are separate large dressing rooms for both men and women. And a lower-deck lounge for relaxation until passengers are ready to retire.

The Stratocruiser soars above weather

The Stratocruiser's unequalled speed, comfort and reliability will soon be available on these forward-looking airlines — Pan American World Airways, Swedish Intercontinental Airlines, Northwest Airlines, American Airlines — for which Boeing is building fleets of these super-transports

BOEING

STRATOCRUISER

Transair Prospers On Package Cruises And Charter Flights

Package cruises by air and charter flights for the larger corporations—these two fields of commercial air transportation—are being developed with apparent success by Transair, Inc.—a non-scheduled passenger operator with offices in the Heckscher Building, 730 Fifth Avenue, New York.

Transair is a million dollar corporation. In slightly more than three months of operation it has flown over 6,000,000 passenger miles. It has a fleet of 13 planes—three 44-passenger DC-4s, five 21-passenger DC-3s, three 10-passenger Lockheed Electras, one eight-passenger Douglas B-23, and one Beechcraft, a single-engine, three-passenger aircraft. It has 21 pilots and co-pilots and a total of 81 employes on its payroll.

Transair's set-up is unique in that it is not a retailer of air transportation. Wholly engaged in non-scheduled passenger operations, Transair deals almost exclusively through the travel agencies. It does not sell tickets. It contracts with the travel agent to furnish air transportation to any part of the United States, North and South America and Europe. In this field, it already has had considerable experience. It is just beginning to develop a charter business with corporations that have given up the idea of owning and operating a company transport plane.

As an example of the type of charter operation in which it engages, Transair is under contract with a travel agency on a six week basis to fly vacationists to Banff, Lake Louise in the Canadian Rockies. Under its contract, it will fly one group of 44 passengers to Lake Louise. The plane will dead-head back to Newark Airport. One week later, it will fly another group of 44 to the Canadian resort and return the original 44 to New York. It will continue these round trip flights until the six-week contract period expires. The travel agency will prorate the air transportation expense of all of the flights, which includes the one dead-head flight from Canada to New York among all of its patrons contracting for the New York-Lake Louise tours.

Like many of the other non-scheduled operators in the business today, Transair gives the impression of dependability. It appears to have laid its foundations carefully.

President of the corporation is Deering Howe, senior partner in the law firm of Shearman, Sterling and Wright, a director of the Chemical Bank and Trust Co., the West Indies Sugar Corp. and the Miami Corp. which he also serves as vice president and general counsel.

Transair's vice president is Hugh Fenwick. He has served as vice president of Curtiss-Wright Corp., general sales manager of the Aviation Corp. and during the war was vice president of Consolidated Vultee Aircraft Corp. He resigned as vice president of Hughes Aircraft Co., to accept the post with Transair. Fenwick also is an experienced pilot.

Transair has its own maintenance service at Miami, with Camille Vinet, a widely experienced airman, in charge.

Connor Lawrence, a civilian pilot in the Air Ferrying Command, is operations officer at the Newark Airport. Many of the pilots who serve under him were former airline pilots who gave up their positions to enter the Army Air Forces during the war.

Transair's president is optimistic about the future of his company. He believes charter operations for the larger corporations will develop into a lucrative business. Transair, he said, had conducted a survey of 60 of the larger corporations. All of them were interested in owning their own planes. Many of them did own aircraft but felt they were not getting the dollar value they had expected. Several of them were worried over maintenance. In one week, two of them had offered to sell their planes — $100,000 Lockheed Lodestars to Transair—and enter into contract with Transair for charter flights.

"These companies purchased these planes when Mr. Vinson was still paying the bill. This year it's different," Howe stated. "We believe this situation offers us a splendid opportunity to perform a worthwhile service."

Howe said his Transair did not fear CAB regulation. He said his company welcomed regulation because it had, from the start, operated on a safe and sound basis.

Raymond J. Ellis, president of **South Central Air Transport, Inc.**, Fayetteville, Ark., said his company would begin operation May 15 and June 1 of a passenger and express service using six Cessna UC-78s. Schedules have not been determined, but will operate into Little Rock. The company has ordered Beechcraft 10-passenger transports.

Hawaiian Air Transport Service has purchased a Model 18S Beechcraft to operate a passenger charter service from John Rodgers airport, Honolulu. The service will be expanded June 1, when delivery is taken on a second Beechcraft.

Northern Air Service, now operating out of Grand Rapids (Mich.) airport, has filed with the Michigan Aeronautical Commission application for a permit to operate a helicopter taxi service between the airport and a downtown department store roof.

Veterans Air Express, Newark, N. J., is flying hatching eggs to Czechoslovakia for UNRRA, and will shortly undertake more expanded operations across the Atlantic for the government relief agency.

National Skyway Freight Corp., Los Angeles, plans to spend approximately $1,275,000 for the purchase of a new fleet of cargo planes for its non-scheduled operations. A stock issue of 500,000 shares of common, at $1 par, is being offered publicly to finance the program.

Kingsair Transportation, Inc., Minneapolis, is providing non-scheduled and off-airline passenger and cargo flights anywhere in the U. S., Canada, Alaska and Central and South America. It has two twin-engine Cessnas and a Norseman.

American Air Express Corp., has been organized to operate a transcontinental line devoted solely to express and cargo. Main line will connect New York and Boston with Los Angeles and San Francisco. DC-3 equipment will be used.

Air Ferry Service has been set up by H. H. Steely, formerly in the public relations department of Ryan Aeronautical Co. Headquarters are in San Diego. Primary function is to deliver surplus aircraft from the east and middle west to California.

Robinson Airlines, non-scheduled operator between New York and Ithaca, carried 345 passengers during February, with applications for space totaling 938. Maj. Charles A. Parker, former ATC pilot, has joined the company to serve in the flight service division.

Travelaire Lines, of New York, has inaugurated daily service between Scranton, Pa., and New York City. The company also plans a daily flight between Scranton and Atlantic City, Williamsport, Harrisburg and Philadelphia. DC-3s are used.

Slick Airways, San Antonio, Tex., has established a base at Long Beach, Calif., with Charles Barnhart as manager. A traffic office has been set up in Los Angeles. A maintenance crew and flight crew are based at Long Beach.

Short-Haul Companies Will Solve Needs of North East, Says Love

Short-haul feeder companies rather than the long-haul companies now operating in the region will provide the solution to the air transportation needs of many New England cities and towns, Robert M. Love, president of All American Aviation, told the recent Third New England Aviation Conference.

"It is my opinion," said Love, "that the major carriers, having specialized in long-haul service, are not psychologically equipped to provide local service. They have had no more experience than the feeder operators in providing facilities for the commutation or shopping passengers who wish to travel only to the nearest-marketing centers."

Love said feeder line operators proposed to fill the gap in the present air transportation system by providing frequent schedules, between intermediate area communities and principal marketing centers, where long-haul connecting service will be available.

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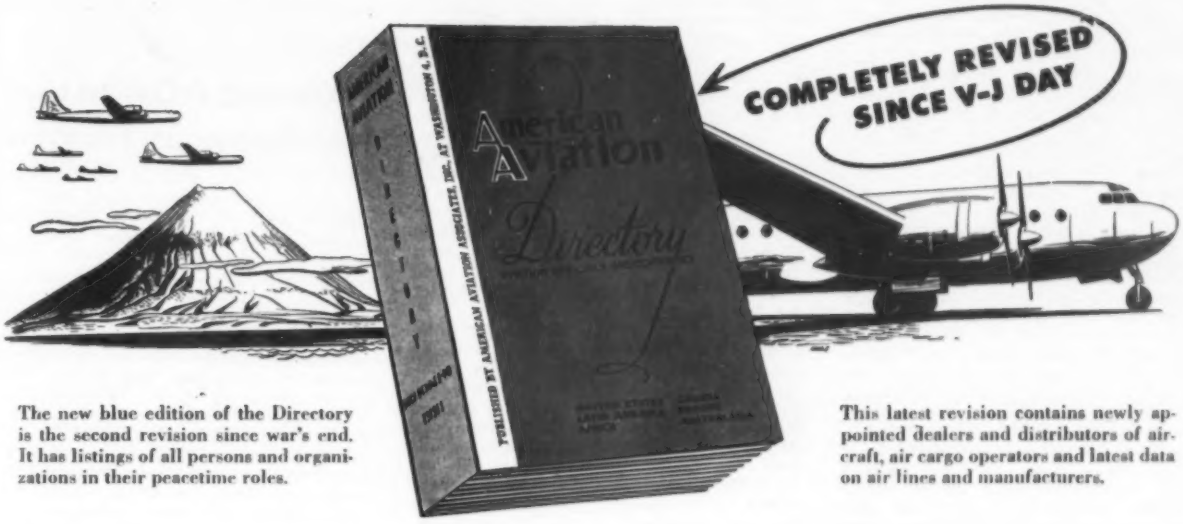

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American Adopts Single-Class Tariff for Freight Shipments

Additional Rate Changes By Other Lines Expected

IN A MOVE that may herald an aggressive advancement of scheduled airline interest in the air freight business, American Airlines on April 26 eliminated its four-class freight rate system in favor of the simplified single-class tariff which United Air Lines has been using for cargo development since Feb. 1.

Immediate results of the change are sizeable savings to air shippers over American's system, and removal of the competitive advantage which United has enjoyed through its lower freight rate structure. Of further significance, the development is recognized as a step toward countering the challenge of non-scheduled and charter operators in the cargo field.

Since the one-class freight system of American and United pegs the average ton-mile rate well below general freight tariffs of other airlines, its effect will be felt throughout the industry and other carriers may be expected to swing over to a similar rate scale shortly, or remain at a disadvantage to United and American in stimulating air freight traffic. According to the CAB rates and audits section, only three other scheduled airlines —TWA, Continental, and Braniff—have entered the freight field with their own general freight rate structures, and each uses a multi-class system similar to the one just abandoned by American. In addition, Eastern Air Lines has in effect a special commodity rate for handling newspapers and magazines.

While the new lower rate may bring an initial decline in American's monthly freight revenues, that condition should be short-lived with increased volume more than compensating for the difference at an early date. A glance at American's and United's freight figures for February gives a good idea of the comparative revenue-producing effects of the new and old rate structures. During that month which was its first in the freight business with its one-class rate system, United carried 123,861 ton-miles of freight, or 75% of the 164,867 flown by American which inaugurated its freight service back in October, 1944. However, United's lower basic rates brought that carrier only $33,149 or just 51% of the $64,314 received by American.

The average rate under its new one-class freight set-up will be 26.5c per ton-mile, not including pick-up and delivery, American reported last month. Savings up to 20% will be in effect for volume shipments on this scale:

Weight	*Average Rate*	*Saving*
100 to 499 lbs.	26.5c	base rate
500 to 999 lbs.	25.6c	3.3%
1,000 to 1,999 lbs.	24.7c	6.7%
2,000 to 2,999 lbs.	23.0c	13.3%
3,000 lbs. and over	21.2c	20.0%

Under the old structure, air freight rates varied from a top of 53c per ton mile for Class A shipments (including especially valuable commodities such as gold, furs, and diamonds); 45c per ton-mile for Class B (including cameras, motion picture projectors, musical instruments, and scientific equipment); 38c per ton-mile for Class C (including drugs and medicines, dry goods and clothing, sea food, and hand tools); and 31c per ton-mile for Class D (including fruits, vegetables, berries, automobile and aircraft parts, books, newspapers, magazines, and machine parts).

Savings between the new and old rates will vary considerably depending upon the distance flown and weight of the cargo. A shipper sending 100 lbs. of cargo in Class A under the old rate from New York to Los Angeles would pay $66.60, including pick-up and delivery, while under the new rate this shipment in a 3,000-lb lot would cost only $27.60, a reduction of 58½%. A shipper sending 25 lbs. of cargo from Los Angeles to New York now pays $8.78, compared with $18.55 for such a Class A shipment under the old rate.

Also in the air freight field last month, Braniff announced that rates will be greatly reduced for cotton samples starting May 19. Under the new tariff, 100 lbs. of cotton samples may be shipped from Fort Smith, Ark., to Memphis Tenn., for a total charge of $4.70 in less than two hours flying time, or $2 less than the present rate. Expressing approval of the forthcoming reduction, Alonzo Bennett, president of the National Industrial Traffic League of America, indicated belief that "this rate granted by Braniff will undoubtedly be followed by other commodity rates designed to fit the needs of the cotton industry. The speed of air freight will be of great advantage to both growers and dealers in today's highly accelerated market."

Briggs Assists Solomon

William B. Briggs, former vice president of traffic and sales, Northeast Airlines, has been named assistant to S. J. Solomon, president of Atlantic Airlines, Inc., Washington, D. C. Briggs, whose offices will be in New York, formerly was public relations director for Ludington Airlines and assistant to the first vice president of Eastern Air Lines.

To Curb 'No Shows'

TWA is putting into effect a time limit on seat reservations in an effort to curb "no shows"—people who reserve space and then fail to appear at flight time. John A. Collins, TWA vice president for transportation, says that in the future passengers who reserve seats far in advance must pick up their tickets 24 hours before the flight leaves. Passengers asking space less than 24 hours before flight time may have three to 13 hours to buy tickets, depending on the departure time.

International Services

PAA and AOA to Use Heathrow as Terminal

Pan American Airways and American Overseas Airlines announced that beginning May 20 they will operate into London Airport, formerly known as Heathrow, 14 miles from the British capital. At present Pan American and other U. S. flag carriers are using Hurn airport, 118 miles from London.

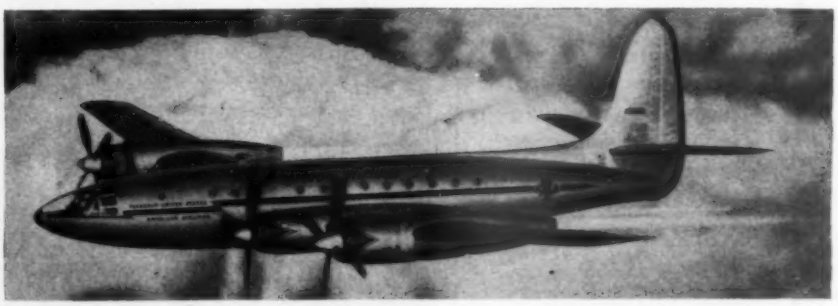
At the same time Pan American announced a switch-over to Constellation equipment on its New York-Lisbon-Africa service, replacing DC-4s. Effective May 1, the company is assigning Constellations to its New York-Bermuda run.

Pan American's U. S.-Honolulu service was underway with Constellations, which were consistently whittling down flying time. Fares have been reduced on this service approximately 30%.

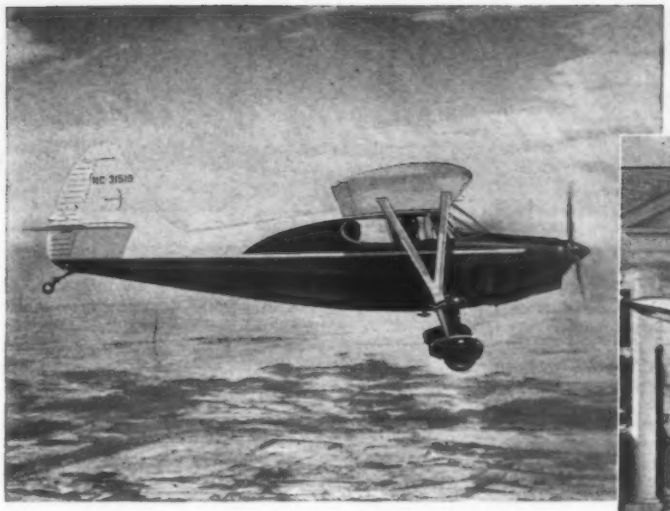
Pan American also announced plans for reopening of all of its Pacific routes, with the Auckland, N. Z., and Manila routes expected to be in operation by June.

TWA was scheduled to start on May 1 service between Washington and Madrid, Spain, via Lisbon. The flight will extend on to Rome, where it joins the northern TWA route from Paris and continues on to Athens and Cairo.

On May 3, TWA will start the first direct route from Chicago to Paris, Rome and Athens. All of these new services will be on the basis of weekly schedules. The new Chicago flights will be non-stop Chicago to Gander, Newfoundland, thence to Shannon, Paris, Rome, Athens and Cairo.



American's Rainbow— American Airlines is purchasing 20 of these 400-mph, 40-passenger Republic Rainbows at $1,100,000 each for delivery next year. This touched-up photo shows American's markings on the turbo-supercharged transport which uses four Pratt & Whitney Wasp Majors. American expects to gain 20 mph through the jet thrust assist feature. The Rainbow has a 10,000-pound payload for a range of 4100 miles. In addition to passengers and crew, the plane will carry 1600 pounds of baggage and 1700 pounds of cargo.



When you put your Stinson Voyager 150 into a climb, you can sit back and relax . . . confident that it will take you over the mountains ahead. With this plane, you don't have to waste time and fuel in spiraling to gain altitude. The Voyager 150 climbs at the rate of 770 feet per minute, has a service ceiling of 14,000 feet.

And when you set the Voyager 150 down in a high-elevation landing spot, where the air is thin, you know you can fly it out again . . . and easily, too. Even at an elevation of 8700 feet, the Voyager 150 needs only 1350 feet to take to the air—and at sea level it takes off with a run of 550 feet. The Voyager 150 is truly a "fly-anywhere" plane!

Inside and out the Voyager 150 is a handsome plane and a luxurious one. Seats are richly upholstered and individually adjustable to your comfort. The cabin is soundproofed and has controlled ventilation. From its trim propeller to its smartly designed rudder, this plane's a thoroughbred!

Your choice of two striking color combinations . . . blue-yellow and maroon-gray. And in the Voyager 150 "handsome is as handsome does." This plane carries a useful load of 944 pounds.

You'll fly high, wide, and handsome

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The Voyager 150 puts you in easy reach of *everywhere!* It cruises at 125, has a top speed of 133 miles per hour. You can make a 500-mile trip in an afternoon.

And you don't have to have paved runways to take off and land. Almost any field or pasture will do for this plane. You can go quickly and comfortably where you will in the Voyager 150. And economically . . . for operating costs compare favorably with the cost of operating your family car.

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Airline Commentary

IN QUITE A FEW past columns we have dealt at some length with the airport limousine problem . . . We have been of that school which believes that limousine fares are too high and that there are only two dangers to flying—the ride to the airport and the ride from the airport . . . Well, it seems that a reader of this column is John Carey, president of Carey Airport Service Inc., which operates all the limousines to La Guardia and Newark (and which, in our opinion, does a good job) . . . Mr. Carey, quite naturally, does not agree with some of the things we've said, and last fortnight he was kind enough to give us his side of the picture . . . And it's an interesting side . . . Mr. Carey says there's a general impression that limousine operators who charge one dollar plus tax to take you to the airport are making so much money that they're looking for banks to put it in . . . Not true, adds Mr. Carey, and his explanation is quite convincing . . . He says that after he gets through paying La Guardia Field 10c for each passenger carried plus other state and local taxes and charges there's 21c of the dollar that he never sees . . . Drivers and other labor, plus maintenance, come high, so Mr. Carey says he's not having any trouble finding banks to put his money in . . . To his credit, he wants us to continue to call the shots as we see them . . . We naturally remain an advocate of lower fares, but after his explanation we may now pay our dollar with less griping . . . He convinced us that the limousine operators know what their problems are and are attempting to solve them . . . And they are surprisingly aware of what the public thinks of their service and what the public wants . . . A lot of them grew up with aviation, and they speak the language . . . We have a better impression of the limousine operator, thanks to Mr. Carey . . .

With all these big airplanes being put into service, the airlines are certainly getting a conglomeration of loading ramps . . . So we think it appropriate to reprint below a wonderful cartoon from "The New Yorker" . . . Artist Steinberg has drawn some-

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thing which may appear on the airports of the country any day now, the way things are going . . . We especially like that plush carpet idea . . .

If the airlines intend to continue the use of public address systems for paging passengers, they will have to pay more attention to the accoustical qualities of terminals . . . Also please tell "announcers" to slow down a bit . . . At some places announcements are starting to resemble those given in railroad stations, and it's a combination of accoustics and announcers . . . We're one of those funny persons who likes to get aboard the right airplane . . .

In the last issue we took a crack at the tipping evil at airports . . . The response has been very favorable—it seems that there are people who agree with us that passengers pay a lot for those 30 or 40 steps they take from the limousine to the ticket counter . . . And it's a pretty ironclad system . . . Listen to this: a friend of ours was entering the Chicago terminal with a small handbag which he was perfectly capable of carrying himself, so he muscled his way past the line of porters and went to the ticket counter, depositing his bag on the scales . . . The clerk checked him in, weighed his bag, attached the baggage ticket, and then—called a porter and gave him the stub . . . The porter carried the bag eight feet and put it in a pile with other outgoing baggage . . . Our friend had to go to the porter to get his stub . . . The porter meanwhile was assuring him that the bag would get on the flight . . . Result: a tip . . . And the porter had done nothing that our friend was not willing and able to do . . . We think that this "cooperation" between airline reservation clerks and porter should stop . . . We admit that there's a need for porters at airports, but the public should have its choice—it shouldn't be blackjacked into using porters who consider a dime tip an insult instead of a gratuity . . .

ERIC BRAMLEY

Transport Notes

Class Graduates—American Airlines graduated a stewardess class of 103, largest in the history of the carrier. The company will train 1000 stewardesses in the next five years.

Yankees Aloft—Delta Air Lines carried the entire New York Yankees baseball team from Dallas to Atlanta for a pre-season exhibition game.

Sales Conference—Braniff Airways held its first post-war system-wide sales conference at Dallas, stressed sale of mass transportation.

Offices Moved—Public and press relations department of the Latin American division, Pan American Airways, is du Pont Building, Flagler at NE 2nd St., Miami.

More Passengers—Northwest Airlines carried 38,520 revenue passengers in March, greatest number in the history of the company.

Carries Eggs—TACA has contracted to transport one million eggs from Miami to Rio de Janeiro. Shipper is A. K. Mauro, Inc., Philadelphia.

More Facilities—Panagra reports that South American governments are preparing to accommodate faster, four-engine aircraft, which the carrier will have in operation shortly.

Airfreight Increases—United Air Lines reported an increase of 272½% increase in airfreight shipments over its system in March, compared with February.

Moves Offices—Trans-Canada Air Lines moved its reservations, ticket and district traffic offices in New York from 53rd and Fifth Ave., to 16 E. 58th St.

Publishes Brochure—United Air Lines has published a brochure on its airfreight service.

Flies Models—Aerovias Brasil, S. A., TACA affiliate, flew eight models from New York to Rio de Janeiro. They will display American gowns at Rio's Copacabana Hotel.

Named Representative—John Howard Payne, consulting economist, has been named Washington representative for Air France.

Cuts Fares—Pennsylvania-Central Airlines cut its fares between Baltimore-Washington and Birmingham-Huntsville, Ala.

Latino Displays—TACA Airways is establishing a miniature inter-American center at the company's headquarters in Miami. Featured will be Latin American products.

Phone Changed—American Airlines in New York has changed its phone number from Murray Hill 5-3900 to Murray Hill 3-9000.

Cuts Rates—Braniff Airways will cut rates on cotton samplings effective May 19, giving the commodity a fourth class rating.

Byrne Leaves C&S, Joins Colonial

William J. Byrne has resigned as treasurer of Chicago & Southern Air Lines to accept a position as treasurer of Colonial Airlines. He was expected to assume his new duties May 1. Byrne had been with C&S since Feb., 1944.

New Services: Continental Starts Tulsa-El Paso Trips

CONTINENTAL Air Lines opened its new Tulsa-El Paso "oil center" route with two round trips daily. Intermediate points served are Carlsbad and Hobbs, N. M., Midland-Odessa, Lubbock and Wichita Falls, Tex., and Oklahoma City.

• Colonial Airlines inaugurated service between Montreal-Ottawa and Washington, D. C., with a round trip daily on each segment of the route. Intermediate points are Baltimore, Reading and Syracuse.

• American Airlines added seven round trips to its New York-Washington service, using 44-passenger DC-4s. This supplements American's 18 round trips between New York and Newark and Washington for a total of 428 passenger seats daily.

• Pennsylvania-Central Airlines placed DC-4s in service between Birmingham, Pittsburgh and Newark and announced reactivation of its routes from Chicago and Detroit to service the intermediate points of Grand Rapids, Saginaw-Bay City, Midland, Traverse City, Pellston, Petoskey, Harbor Springs and Cheboygan.

• PCA has purchased an additional six DC-4s to bring its fleet of this four-engined aircraft to 25. Seating capacity will be increased on all of PCA's fleet from the present 59 to 61.

• Eastern Air Lines resumed service to Daytona Beach, Fla., with three flights daily. The Daytona Beach run was suspended as a war-time measure.

Otto Airlines Increases Services From Newark

Otto Airlines Inc., Newark Airport, Newark, N. J. is now operating three round-trip flights daily between Newark and Atlantic City and expects to inaugurate service between Newark and Camden and between Camden and Atlantic City the middle of next month.

The company started operations April 5 and up to and including April 21, it carried 651 passengers between the two points, representing a load factor of 53%. The company had 212 reservations on file between April 22 and May 22 and President Bowman Otto believes that by the end of April, the load factor will be up to 80%. Plans are being made to inaugurate service from Atlantic City south to Cape May around June 1.

Otto Airlines has two 14-passenger Lockheed Lodestars in operation on the Newark-Atlantic City run. Two women co-pilots also serve as hostesses. The one-way flight is made in 35 minutes, contrasted with three to five hours by automobile, depending on traffic conditions, and three hours and 10 minutes by train.

The company recently signed a contract with the Air Express agency.

Airline Personnel

Traffic and Sales

C. J. Miller, southern divisional traffic manager for Pennsylvania-Central Airlines at Knoxville, has been named manager of the interline and agency department with headquarters at Washington National Airport.

Robert England, Northwest Airlines' dtm in Detroit, becomes dtm at Seattle, and **James W. Speer,** head of NWA's Newark office, succeeds England at Detroit. **Ronald McVickar,** assistant dtm at Newark, will be in charge of that office until a new manager is appointed.

Frank H. Mattix has returned to Eastern Air Lines from the Navy and has been appointed Great Lakes division agency manager in Detroit. **Mack B. Hargrave,** EAL's city manager at Memphis, has been promoted to district manager of the St. Louis area

Miscellaneous

E. D. McGlone, with United Air Lines for 16 years, has joined Western Air Lines as assistant to **T. W. Cate,** advertising manager.

James E. Romar, recently released as an ATC captain, has rejoined Eastern Air Lines and has resumed duties in charge of the New York City purchasing office.

D. V. O'Leary, who joined United Air Lines in 1935, has been appointed manager of stores. **E. M. Gordon** becomes stores manager at the Cheyenne maintenance base and **Dale Neilson** has been named stores manager at San Francisco. **H. W. Bentson** is in charge of United's stores activity in Santa Monica. **Kenneth J. McBride** has been named auditor of UAL in the Chicago general offices, succeeding **Carroll Blanchar,** recently elected comptroller. **William B. Meisner,** 18-year veteran in airline maintenance and training, has been named assistant to **T. L. Kramer,** United's regional superintendent of maintenance at Chicago.

Hargrave Romar Speer England O'Leary Mattix

Operations

Fred Herschelman, Jr., for 19 years associated with domestic airlines and CAA, has been assigned to Delta Air Lines' staff as chief inspector.

Harold P. Little, air corps veteran of two wars, has returned to United Air Lines as flight captain after completion of almost four years in ATC as a colonel. He will be based at San Francisco.

Col. William R. Parkhill, ex-Army pilot, is one of a group of veterans who have joined Pennsylvania-Central Airlines as co-pilots. Others are: **Lt. Jack Morton Young,** NATS; **Lt. William Henry Martin,** Navy; **Capt. Lawrence M. McDermott,** ATC; **Lt. James N. Goody,** Navy; **Lt. Col. Robert E. Booth,** AAF; **Lt. Harold W. McClintock,** AAF; **Maj. Harry L. Smith, Jr.,** AAF; and **Harold R. Fairhurst,** AAF flight instructor, returning to PCA.

Stanley A. Hedberg, executive assistant to the manager of Pan American Airways' Africa-Orient division, has been named press relations manager of the Atlantic division at LaGuardia Field, New York City.

Stewart Faulkner, previously associated with Alaska Airlines, Pennsylvania-Central Airlines and Lockheed Aircraft Corp., has been appointed director of advertising and publicity for Continental Air Lines at Denver.

Richard Fisher has joined the eastern regional public relations staff of American Airlines System at LaGuardia Field, New York.

Edward J. Doherty, Jr., with TWA before the war, has returned from the Army to become manager of Pennsylvania-Central Airlines' western region news bureau in Chicago.

Herschelman Little Goody Young Martin McBride

Sewall Quits AOA Post At Request of War Dept.

Sumner Sewall has resigned as president of American Overseas Airlines to serve as assistant to Lt. Gen. Lucius D. Clay, deputy military governor of the U. S. zone in Germany. Sewall will be in charge of public health and welfare facilities and ultimately will be assigned as director of the military government in one of the three German states in the U. S. zone.

Sewall's resignation from AOA was at the request of the War Department, which asked him to take the foreign assignment.

C. R. Smith, chairman of the board of American Airlines, was elected president of AOA to succeed Sewall. Harold R. Harris, vice president and general manager, was elected to the board in place of Sewall. Terrell Croft Drinkwater, vice president, was named a director succeeding C. W. Jacob, secretary of AA.

Honor Airline Engineers

Two airline engineers—Walter F. Johnson, chief industrial safety engineer of American Airlines, and Gilbert F. Tyler, industrial safety superintendent of Pan American Airways—have been awarded the second annual Arthur Williams Memorial Fellowship by the American Museum of Safety. They will conduct research in safety in aviation ground operations under the guidance of New York University.

Tremendous Transports need tough "legs"

Illustrated is the 155,000-pound Douglas C-74 "Globemaster" that can fly to almost any point in the world. Because this tremendously heavy transport requires landing gear of outstanding efficiency and reliability, it is equipped with Cleveland Pneumatic Aerols. ● Other leading transport planes as well as the "Globemaster", are Aerol-equipped. This widespread preference for Aerols is due to their long record of proved performance — *for almost 20 years, on all sizes of planes,* Aerols' smooth shock absorption has insured safety and comfort in landing.

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CAB Quizzes Carriers on IATA's Transatlantic Fares

Dissatisfaction Indicated Over Conference Results

By DANIEL S. WENTZ, II

TRANS-ATLANTIC air fares set by rate resolutions of the North Atlantic traffic conference of the International Air Transport Association (IATA) were seriously questioned by members of the Civil Aeronautics Board during a day-long discussion of the rate resolutions with representatives of the U. S. carrier members of IATA. Throughout the discussion, questions asked by the CAB members indicated a general dissatisfaction with conference procedures and results, and an apparent feeling that the U. S. carrier members had not made a strong enough fight for lower fares.

A long and detailed agenda of questions issued by the Board formed the basis for the discussion. In these queries the Board wanted to know why an agreed rate (based on a New York-Paris fare of $375 one way) had been set by the conference in the absence of any adequate operational cost data on which fares are to be based: whether the agreed rate represented a "compromise" rather than an effort to reach the lowest economically feasible rate; whether competitive forces had been given any play in reaching the rates; and whether "a timid and cautious approach towards the transatlantic rate levels will tend to prevail in the deliberations of the conference, and that efforts to establish long-range promotional rates will be foreclosed."

In its opinion approving participation by U. S. airlines in IATA traffic conferences, the Board had said quite plainly that it expected fares to be coupled closely to actual operations costs, and that if these costs could not be determined, an open rate should be set. Under the open rate each carrier would charge whatever fares seemed in its judgment most sound.

American Overseas Airlines, represented by Howard Westwood, Transcontinental & Western Air, represented by Carl Rowe, and Pan American Airways, whose spokesman was Henry J. Friendly, made general statements of position on the agreements and were later questioned by the Board members.

Westwood maintained that the North Atlantic traffic conference's work in founding sound principles of rate making would prove very valuable in the future. He named the establishment of the gateway principle, basing fares from Boston, Montreal, Shannon, Oslo and Lisbon, and the gearing of fares to route mileages as real steps forward. Westwood also stated that the conference had determined that through fares should not be higher than the sum of the local rates along the same route.

Carl Rowe, TWA counsel, outlined for the Board the multiplicity of uncertainties present in any effort to ascertain operating costs for the North Atlantic services, stressing particularly such indeterminate factors as landing fees, which may be "staggeringly high" at such places as Gander, Newfoundland; gasoline taxes abroad; pilot pay; foreign currency fluctuations; and the highly important problem of who will operate needed communications services. He held that an open rate would be extremely inadvisable at present, but predicted that the fares would eventually be lowered.

Henry J. Friendly, speaking for Pan American Airways, charged that the agreed rate represented a "falling-in" with European carriers who desire high fares to protect their positions until they are able to begin full scale operations. He recalled that in presenting their cases for North Atlantic routes, both American and TWA had proposed fares considerably below the $375 rate set by the conference, and declared that PAA's proposed $275 New York-London fare which had been thwarted by the British and French Governments was not a particularly low rate. He warned the Board that if it approved the conference rate schedule, it might find future downward revisions hard to make. Friendly relied strongly on CAB Member Josh Lee's dissenting opinion on the IATA agreement to support his claim that the conference machinery did not represent open competition.

The Board, however, wanted to know why Pan Am, if it believed its $275 fare to be economically feasible, had not fought for its adoption at the conference, and why economic data supporting this fare had not been presented. Friendly replied that his company did not wish to risk antagonizing other conference members by forcing a showdown on the $275 fare, because it knew its chances of success to be very slim. He stated that PAA preferred to have actual rate resolutions presented to CAB for approval rather than force an open rate by voting against the fare schedule agreed upon.

During questioning of the three carriers' representatives, CAB Chairman L. Welch Pogue remarked that he found it "incredible" that the $375 rate finally set was the only one presented for the consideration of the traffic conference.

Federal Court Denies Appeal on Decision In WAL Route Case

United States Court of Appeals in Washington has denied United Air Line's appeal from the decision of the CAB granting Western Air Lines a Denver-Los Angeles route. In its brief, United has contended that "the ambiguities and inconsistencies in the Board's decision and its failure to pass upon important issues require that the orders be set aside by the court." The unanimous decision of the court was to the effect that although the Board's findings were "in general terms, not expressed in dollar amount, they are not ambiguous or obscure."

Judge Prettyman, who wrote the opinion, declared, "two features of the present case lead us to hold that the (Board's) findings, as made in general terms, are sufficient to support the award. The first decision is the nature of the final decision to which the case was reduced. In the early stages of its consideration, the Board made two determinations of policy. One was to establish a new route; the other was to maintain Western as a strong carrier. It next concluded, upon the record, to eliminate two of the four applicants (TWA and Continental).

"The remaining and final decision was a choice between the two remaining applicants. Obviously the choice was to be made in furtherance of the policies already established. Therefore, the question at that point was not whether an award to Western would be good or bad *per se* for Western. The question was which of the two awards was relatively better for Western. The decisive factors were not the individual merits of either award but the relative merits of the two.

"The Board found that one course, an award to United, definitely meant serious, if not disastrous, injury to Western. The other course meant the economically sound operation for Western. The contrast thus depicted was vivid. The question now before us is whether those two findings were sufficient foundation for a comparison between the two possible courses and for the exercise of a choice. We think they were."

Examiners Oppose Proposed American, MCA Merger Plan

Prospects for completion of the American Airlines - Mid-Continent Airlines merger looked considerably dimmer last fortnight after two examiners of the Civil Aeronautics Board, using almost unprecedentedly strong language, recommended that the proposed merger be disapproved by the Board because it clashed with the public interest.

The report of CAB Examiners William F. Cusick and J. Earl Cox branded the merger transaction as "a hard bargain whereby control of the company (Mid-Continent) is delivered to the highest bidder willing to pay the highest price." Approval by the Board they declared, "would result in the Board's sanctioning the payment of an excessive price for Mid-Continent's certificates;" adding that a merger of Mid-Continent into the American system would not form an integrated pattern of service; that the acquisition would mean substantial diversion from other airlines and would "have an unhealthy and detrimental effect on their operations"; and that "the enlargement of American's competitive position in the industry would unbalance the domestic air transportation pattern."

Considerable stress was placed on a finding by the examiners that the four-for-one exchange of stock, proposed by American as the method of acquiring control of Mid-Continent, would actually mean that "American proposed to pay, over and above the value of the assets it will receive, a total of $4,238,628." The actual exchange agreement, signed on September 17, 1945, provides that American will issue to Mid-Continent's stockholders, 97,349 shares of American Airlines stock, in exchange for their 389,398 shares of MCA stock. Following such

an exchange, of course, the MCA stock would have no market value, and would therefore represent only tangible assets of Mid-Continent listed at $1,209,671. The AAL stock, however, would have an actually realizable market value of $5,938,350 based on the prices quoted at the time the exchange agreement was signed. (In a footnote the examiners said that as of April 17, the same number of shares of AAL stock could have fetched $8,578,968 on the open market.) They interpreted the difference between the proposed purchase price and the actual value received as placing an abnormally high value on the operating rights (Mid-Continent's certificates of convenience and necessity) to be received, which would be inconsistent with the public interest.

Other reasons, however, also called for a disapproval of the acquisition, the examiners said. After reviewing numerous traffic flow data and airline passenger statistics, particularly traffic which Mid-Continent, historically a connecting carrier, had received from or given to other airlines, they concluded that a genuine integration of operations could not be achieved if MCA were joined to the American System.

Traffic diversion, primarily from Braniff Airways and Delta Air Lines, and to a lesser extent from other carriers, was also cited as militating against the proposed merger.

The examiners reserved some of their strongest ammunition, however, to comment upon the effect that the acquisition might have on the industry at large and on AAL's relative competitive position in the industry. The addition of Mid-Continent's 2,484 route miles to American's 8,125 mile domestic system, would, they declared, only augment American's ability, because of its size, "to influence and control a large part of the air transportation market." The sheer weight of American's size alone clothes it with a competitive advantage over other carriers in such items as advertising, sales force, ticket offices, etc.," the report said. "To lift from the list of independent carriers a system the size of Mid-Continent and attach it as an appendage to the existing predominant American system, would, on its face, serve to unbalance the air transportation system the Board has so zealously sought to achieve."

American to Authorize New Preferred Shares

American Airlines has approved a proposal to authorize 600,000 new preferred shares and to split the present common stock five shares for one. Stockholders also approved acquisition of approximately 51% of the stock of Mid-Continent Airlines by the exchange of one present share of American common for each four shares of MCA.

Aviation Corp., offered a block of 211,000 common shares of American Airlines' stock at $5 par value at $90 a share. The stock sale complies with an order of the CAB for reduction of Aviation Corporation's holdings to not more than 4% of the airline by July 31.

United Air Lines announced a dividend of 50 cents per share of common stock, payable July 1 to stockholders of record June 10, 1946. The same dividend was paid last year.

CAB Activities

By Daniel S. Wentz II

AN EXAMINERS report strongly disapproving the American Airlines-Mid-Continent Airlines Merger; another blueprinting suggested applications of the Board's experimental local air service policy in the Texas-Oklahoma Area; and a day-long discussion on the activities and results of the International Air Transport Association's North Atlantic Traffic Conference (all described more fully on other pages of this issue) high-lighted the past two weeks at CAB. A route consolidation involving American, TWA and United, which developed sharp interest during a two-day hearing, and an oral argument on Trans-Marine Airlines, a "non-scheduled" carrier, formed other highlights.

Crossing the "T"—The AAL-TWA-UAL route consolidation case aroused more than the usual interest attaching to such cases, because it contained United's proposal to cross the "T" by welding its Seattle-San Diego Route 11 onto its Transcontinental Route 1. If this were done, UAL would then be able, at least in theory, to fly non-stop between any point on Route 11 and any point on Route 1—from Denver to Los Angeles, or from Omaha to Los Angeles, for example. This possibility drew strong fire from Western Air Lines. WAL's director of traffic sales, Arthur F. Kelly, said flatly that a Denver-LA nonstop would be ruinous to Western's newly-opened Route 69, eliminating all chances of making that route a paying operation. United, however, claimed that if American and TWA were permitted the consolidations they are asking, United's proposal should also be approved or it would be under a serious competitive disadvantage. TWA opposed UAL's consolidation because it would give United entry into Los Angeles from the East. TWA's E. O. Cocke declared that the consolidation should not be approved unless United were blocked from operating non-stops between Denver and Los Angeles, between Chicago and Los Angeles, and between New York and Los Angeles.

TWA Asks Consolidation—TWA itself was asking consolidation of its Route 44 with its Routes 2, 37, 61 and 67, primarily to speed service through Chicago-Los Angeles, Chicago-San Francisco, Chicago-Philadelphia and Boston-Chicago non-stops. It opposed American's projected consolidation of its Routes 4 and 30. AAL's Willis G. Lipscomb, Director of Sales, outlined important time savings, ranging up to nearly six hours when four-engined equipment replaces DC-3s on the Chicago-Los Angeles run, which the consolidation would allow. The old United-Western interchange, worked before the war at Salt Lake City, also cropped up again as a possibility if United's consolidation were not approved. Harold Crary of United testified that neither company had initiated any negotiations looking toward another equipment interchange, but indications were that the subject was gathering new interest.

"Ambiguous" Order—What the so-called Non-Scheduled Exemption Order (Economic Regulation 292.1) really means has been the foundation for many a lawyer's argument during the past year, but a formal oral argument before the Board on the Trans-Marine Airlines investigation provided an opportunity to demonstrate once again that the regulation must soon be replaced with a definite policy statement by CAB. Public Counsel Julian T. Cromelin, who asked the Board to find that Trans-Marines New York-Cape Cod operations last summer had violated the exemption order, labeled 292.1 "ambiguous." He said Trans-Marine actually had operated as a scheduled airline, with the one important exception that it had not published its schedules. Allowing it to go unchallenged, said Cromelin, would be interpreting 292.1 to mean that any operator could remain free of all economic regulations simply by not publishing any schedules, holding out to the general public that its services were available at specified times between fixed points. Milton Newman, representing Trans-Marine said the company was not concerned about "holding out" its service; its real problem was holding back a flood of would-be passengers. He, too, branded the exemption order "ambiguous," and told the Board that Trans-Marine's president, Hobart A. H. Cooke, had been told by CAB's General Counsel George C. Neal that he was unable precisely to construe just what 292.1 allowed and what it did not allow. At the conclusion of the argument, the case went before the Board for decision, providing yet another opportunity for a clear and detailed explanation of the precise dividing line between scheduled and non-scheduled operations.

Interest in Helicopters—Helicopter services on the West Coast proposed by Southwest Airways Co. and Los Angeles Airways, Inc., were considered at a pre-hearing conference before CAB Examiner Ferdinand D. Moran. A representative of the Post Office Department was present, although he took no specific position beyond stating that the PO was interested in the possibilities of helicopter mail service. Representatives of TWA, Western, United and All American Aviation indicated they probably would ask to intervene. The hearing, according to Moran, probably will be held sometime in June.

Special Exemption Order—To ease critical food shortages in Alaska, where stocks of meat and other supplies were within two weeks of exhaustion, the Board issued a special exemption order to permit all Alaskan air carriers to operate property services between Seattle and points in the Territory. The exemption is valid until June 1, and will permit the airlines of Alaska to bridge a vital gap in transportation facilities.

UAL-Catalina Agreement Heard—The agreement under which United Air Lines has contracted to operate the short certificated route of Catalina Air Transport between Los Angeles and Catalina Island, replacing the pre-war flying boat service, was the subject of a hearing held before CAB Examiner Edward T. Stodola. There were no interveners and the only witnesses were representatives of the two contracting companies. Fare will be $6 one way, and UAL plans to make use of idle time on planes and pilots laying over at Los Angeles to operate the island shuttle.

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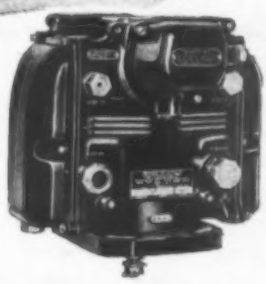

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Extensive Texas, Oklahoma Feeder Routes Recommended

Four Companies Favored For New Certificates

TEXAS and Oklahoma will receive a liberal share of the experimental local air services to be inaugurated under the Civil Aeronautics Board's feederline policy if the Board approves a series of recommendations advanced by its Assistant Chief Examiner Thomas L. Wrenn in a report on the Texas-Oklahoma case. Wrenn's blueprint for new local service proposed the certification of three new carriers to operate in central Texas, South and Southwest Texas, New Mexico and the Texas Panhandle, and a fourth to serve Oklahoma, in addition to a number of suggested amendments and extensions to the routes of American Airlines, Eastern Air Lines, Braniff Airways, Chicago and Southern Air Lines and Essair, Inc.

The four new companies recommended for certificates were Central Airlines, Oklahoma City; Texas-New Mexico Airlines, Inc., Amarillo, Tex.; Aviation Enterprises, Inc., Houston, Tex.; and Aircraft Sales Co., Fort Worth.

For the certificated carriers Wrenn proposed including Midland, Tex., as an intermediate point on American Airlines' Route 4; including Austin, Tex., between Houston and San Antonio on Eastern's Route 5; adding Beaumont-Port Arthur, Tex., as an intermediate point on Chicago and Southern's Route 53; including Texarkana, Tex./Ark., and Gregg County Airport, Longview, Tex., as intermediate points on C&S' Route 53 to be served alternately with Shreveport, La.; and making Tulsa an intermediate point on Braniff's Route 9.

Extensive amendments and improvements to Essair's present route system endorsed by the examiner include amendment of the carrier's certificate for Route 64 to include Midland, Tex., as an intermediate point to be served alternately with Abilene, Tex.; the extension of Essair's route from Houston to Dallas-Fort Worth via (a) Bryan, Temple and Waco, Tex., and (b) Conroe, Palestine and Tyler, Tex.; and the extension of Route 64 from Dallas-Fort Worth to Abilene via Mineral Wells and Breckinridge; from Abilene to Midland via Sweetwater and Big Spring; from Abilene to Wichita Falls; and from San Angelo to Fort Worth-Dallas via Brownwood and Stephenville, Tex., all amendments and extensions to be valid for three years from the date the certificate is issued.

Central Airlines, Inc., was recommended for a series of local routes lying chiefly in Oklahoma. President of the company is Guy O. Marchant and other officers include Keith Kahle, vice president and general manager; Luther Bohanon, chief counsel; Dick Richards, operations manager, and W. C. Marchant, in charge of pilot training. Kahle is a well known aviation figure in the Southwest, and other company officers have considerable aviation experience. Central's estimated mail pay requirement, based on the operation of 14 Beechcraft 18-S aircraft, was 8.7 cents per mile to break even. Wrenn recommended that Central be authorized to operate between (a) Oklahoma City and Dallas-Fort Worth; (b) between Oklahoma City and Amarillo; (c) between Oklahoma City and Elk City, Okla.; (d) between Oklahoma City and Wichita, Kan.; (e) between Oklahoma City and Tulsa; (f) over a circle route out of Tulsa; (g) between Oklahoma City and Texarkana, Tex./Ark.; and (h) between Tulsa and Dallas-Fort Worth, all via various intermediate points.

Texas-New Mexico Airlines, Inc., a partnership of Raymond C. Weatherly, Robert D. Houck, William L. Campbell and Hoyt Houck, was recommended by Wrenn for an experimental series of routes in New Mexico and the Texas Panhandle. Officials of the corporation are Courtland Shropshire, president; E. Byron Singleton, vice president and general counsel, and Robert D. Houck, secretary-treasurer. Shropshire has been associated with Pennsylvania-Central Airlines, Vultee Aircraft, North American Aviation, Inc., and other aviation enterprises since 1933. The company's estimates were based on Lockheed Electras, with mail pay requirements ranging from 30.8 cents per mile to 25 cents per mile after the operation is more firmly established. This company was recommended for routes (a) between Trinidad, Colo., and Amarillo and Fort Worth-Dallas, Tex.; (b) between Garden City, Kan., and Amarillo, Tex.; (c) between Amarillo and El Paso; (d) between Albuquerque and Amarillo; (e) between Amarillo and Big Spring, Tex.; (f) be-

TRAFFIC STATISTICS

SUMMARY OF U. S. DOMESTIC AIR TRANSPORT OPERATIONS FOR January, 1946

Compiled by American Aviation Publications from Official C.A.B. Data.

AIRLINES	REVENUE PASSENGERS	REVENUE PASSENGER MILES	AVAILABLE SEAT MILES	PASSENGER LOAD FACTOR	MAIL TON-MILES	EXPRESS TON-MILES	FREIGHT TON-MILES	TOTAL TON-MILES REV. TRAFFIC	AVAILABLE TON-MILES FLOWN	% AVAILABLE TON-MILES USED	REVENUE PLANE-MILES	SCHEDULED MILES	% SCHEDULED MILES COMPLETED	TOTAL PLANES*
All American	. . . .	. . . .	. . . .	. . .	2,876	287	. . . .	3,164	14,853	21.3%	129,328	154,656	83.5%	10
American	128,943	76,976,392	85,695,250	89.8%	692,202	227,745	168,285	8,765,606	10,934,709	81.6%	4,473,794	4,804,055	93.7%	131
Braniff	37,117	14,280,310	16,777,979	85.1%	67,001	35,384	2,791	1,546,289	1,796,056	87.0%	833,553	856,044	95.7%	22
Caribbean	4,529	265,787	566,353	50.9%	233	432	334	22,263	45,119	53.3%	81,807	32,076	98.0%	7
C & S	20,914	8,449,622	11,083,289	76.2%	29,047	31,187	. . . .	912,932	1,183,683	79.3%	536,854	612,249	85.7%	18
Colonial	9,671	2,964,835	3,375,482	87.8%	7,451	1,880	. . . .	307,272	333,679	92.9%	169,620	140,929	87.3%	12
Continental	11,916	4,682,999	7,042,313	66.5%	12,265	3,803	665	488,551	828,434	63.0%	343,632	356,159	96.3%	13
Delta	27,612	11,169,410	13,850,232	80.6%	80,855	29,365	. . . .	1,189,314	1,630,817	76.5%	656,153	713,376	91.8%	25
Eastern	92,331	48,889,745	56,261,867	86.9%	312,484	214,153	12,210	5,506,133	6,645,413	83.5%	2,769,366	2,810,717	90.4%	74
Essair	809	246,059	541,179	45.4%	1,467	102	. . . .	23,251	54,117	46.1%	60,131	84,692	71.0%	3
Hazelton	17,877	2,564,736	2,708,640	94.3%	2,041	6,591	23,511	257,161	353,007	73.1%	130,875	89,670	96.5%	5
Inland	5,190	1,506,219	2,385,206	63.1%	4,323	953	. . . .	156,757	252,264	62.7%	153,867	154,464	99.4%	11
NCA	15,340	4,641,360	6,163,205	75.3%	20,047	6,260	. . . .	516,180	677,514	76.1%	345,980	385,980	89.6%	9
National	11,830	5,797,677	6,639,516	87.3%	45,879	7,511	. . . .	644,274	728,458	89.3%	508,267	563,951	90.7%	13
Northeast	18,968	4,003,741	5,304,963	75.4%	5,779	2,216	. . . .	355,552	534,464	68.3%	225,225	294,593	76.1%	8
Northwest	30,706	20,673,301	24,607,361	84.0%	176,205	66,089	. . . .	2,346,138	2,776,231	81.5%	1,260,440	1,318,678	90.4%	27
PCA	68,057	19,536,258	24,041,053	81.2%	71,614	57,407	. . . .	1,895,765	2,735,253	70.1%	1,141,726	1,345,956	84.0%	47
TWA	45,816	42,231,613	48,971,500	89.9%	879,987	281,069	66,853	5,489,882	7,414,862	77.2%	2,726,426	3,036,162	87.3%	79
United	79,573	52,915,584	62,304,937	84.9%	1,164,703	385,912	. . . .	6,652,574	9,234,393	73.4%	3,724,484	4,068,470	89.7%	99
Western Air	27,706	9,929,917	12,532,903	79.2%	63,564	21,111	2,929	1,086,939	1,419,502	77.5%	597,248	606,007	98.2%	23
TOTALS	654,804	331,713,555	390,853,228	84.8%	3,639,723	1,379,437	277,578	38,084,997	49,592,828	. . .	20,867,486	22,158,854	. . .	636

* Indicates owned and rented planes

tween Amarillo and Big Spring; (g) between Lubbock, Tex., and Albuquerque, and (h) between Lubbock and Wink, Tex., all via various intermediate points.

Aviation Enterprises, Inc., was recommended for feeder routes in South and Southwestern Texas. It is a corporation whose two chief stockholders are R. Earl McKaughn and L. C. McKaughn, who prior to the war operated a training school, a repair and overhaul station, and an aircraft and accessories sales service. During the war the McKaughns conducted an Army Air Forces pilot training program at Avenger Field, Sweetwater, Tex. James V. Allred, former governor of Texas, is also a stockholder and vice president of the corporation. Based on Beechcraft 18-S aircraft, the company's break-even mail pay requirements range from 13.6 cents per mile to 57.4 cents per mile depending on the size of the system granted.

The company was recommended by Wrenn to operate local service (a) between El Paso and Brownsville, Tex.; (b) between Del Rio and San Antonio, Tex.; (c) between Laredo and Houston, Tex.; (d) between San Antonio and Brownsville; (e) between Houston and San Antonio; (f) between Houston and Beaumont-Port Arthur, Tex.; (g) between San Antonio and Shreveport, La.; and (h) between Houston and Tulsa, all via various intermediate points.

Aircraft Sales Co. has been primarily engaged in pilot training and the wholesale and retail sale of aircraft and parts. Officers of the company are Leslie H. Bowman, president; O. R. Mitchell, vice president; L. Rynning, secretary, and I. R. Moore, treasurer. It estimated its first year's mail pay requirements at 29.9 cents per mile, based on the use of the Beechcraft 18-S. Aircraft Sales was recommended to operate (a) between Fort Worth-Dallas and San Antonio; (b) between Fort Worth-Dallas and Houston; (c) between Fort Worth-Dallas and San Antonio; (d) between Fort Worth-Dallas and Texarkana, and (e) between Texarkana and Fort Worth-Dallas, all via various intermediate points.

The examiner suggested the usual three-year experimental limit on these certificates, but urged that the period be made to extend from the date each company, if certificated by the Board, is able to begin actual operations. Wrenn's report varied from those of other CAB examiners in that it withheld any restrictive proposals. He pointed out that Essair's restrictions prevented it from providing a needed turn-around service between Houston and Austin, and suggested that this experience be used to formulate a broader policy on feederline restrictions. Local operators, he maintained, should be given enough latitude to permit them to adjust their operations to public need rather than required to serve each intermediate point on every schedule.

Twenty-four feeder applications were rejected by the examiner. An application of South Central Air Transport was recommended for denial except for a portion which Wrenn suggested should be considered with the Mississippi Valley case. Mid-Continent and Continental were the only established carriers whose applications were denied. The case involved 42 applications proposing service to 367 cities in the Texas-Oklahoma area.

CAB Proceedings

(A Summary of Applications Filed, Orders Issued, and Future Actions of the Civil Aeronautics Board.)

Orders:

4631—Authorizing Chicago and Southern Air Lines to operate non-stop between Evansville, Ind., and Memphis, Tenn., on Route 53.

4632—Permitting the City of Rockford, Ill., to intervene in the Great Lakes Area case. (Docket 535 et al.)

4633—Granting foreign air carrier permits for the Miami-Havana route to Compania Cubana de Aviacion, S. A. and Expreso Aereo Inter-Americano, S. A. (Dockets 1887 and 2012).

4634—Granting foreign air carrier permits for an Amsterdam-New York route and for a Curacao, N. W. I.-Miami service to Royal Dutch Air Lines (KLM). (Dockets 1187 and 1277).

4640—Authorizing Pacific Northern Airlines to intervene in the Alaskan proceeding in which Northern Consolidated Airlines is seeking CAB approval for its proposed acquisition of Ray Petersen Flying Service, Northern Airways, Walatka Air Service, and Northern Air Service. (Docket 2209).

4641—Permitting Alaska Airlines to intervene in the certificate proceeding on the application of Arctic Air Service in Docket 2033.

4642—Authorizing United Air Lines and Pennsylvania-Central Airlines to intervene in the Northwest Airlines Routes 3 and 69 Consolidation Case. (Docket 2018).

4650—Denying a petition of Atlantic-Western Airlines, Inc., for permission to intervene in the Southeastern States Case (Docket 501 et al.) and to introduce evidence in that proceeding in support of its application in Docket 2059.

4651—Authorizing American Overseas Airlines to serve London, England, through the use of Heathrow Airport.

4652—Authorizing Colonial Airlines to serve Syracuse, N. Y., Reading, Pa., Baltimore, Md., and Washington, D. C., through the use of Syracuse Municipal Airport, Reading Municipal Airport, Baltimore Municipal Airport, and Washington National Airport.

4653—Permitting Colonial Airlines to operate non-stop between Syracuse, N. Y., and Washington, on Route 71, beginning April 15.

4656—Denying an application of Transcontinental & Western Air for an exemption order which would have permitted it to operate to and from Eire as an intermediate point on its route between Newfoundland and Lisbon, Portugal. (Docket 2238)

4657—Authorizing Mid-Continent Airlines to operate non-stop between Kansas City and Shreveport, La., on Route 26.

4658—Authorizing Mid-Continent Airlines to operate non-stop between Omaha, Neb., and Minneapolis-St. Paul, Minn., on Route 26.

4661—Permitting the Commonwealth of Massachusetts and National Airlines to intervene in the PCA-Northeast Merger case. (Docket 2168).

4662—Authorizing all Alaskan air carriers, by special temporary exemption order, to operate between Seattle and points in Alaska with respect to property only, as a means of relieving a severe food shortage in the Territory.

4663—Revoking previous Board orders under which service to Lincoln and Grand Island, Nebr., on United Air Lines' Route 1 had been temporarily suspended.

4664—Permitting the Great Falls (Mont.) Chamber of Commerce to intervene in the North Central case. (Docket 415 et al.)

4665—Authorizing American Airlines to intervene in the Northwest Airlines Routes 3 and 69 consolidation case. (Docket 2018).

4666—Permitting the Ctiy of Rockford, Ill., to intervene in the North Central case. (Docket 415 et al.)

4667—Approving interlocking relationships arising from the holding by J. C. James of positions as an officer or director of Railway Express Agency, Inc., and as an officer or director in several railroad companies. (Docket 2191).

Applications:

Air Express International, Inc., 40 Exchange Place, New York 5, N. Y., for a certificate of public convenience and necessity authorizing air express and air freight forwarding over the lines of all air carriers and foreign air carriers now or hereafter cetificated by the Boad for air transportation to, from and between all points in the United States, its territories and possessions, and foreign countries, and with interstate, intrastate and contract carriers. (Docket 2262).

Air Express International Agency, Inc., 40 Exchange Place, New York 5, N. Y., for a certificate of convenience and necessity authorizing air express and air freight forwarding over the lines of all air carriers and foreign air carriers now or hereafter certificated by the Board for air transportation to, from and between all points in the United States, its territories and possessions, and foreign countries, and with non-scheduled, intrastate and contract carriers. (Docket 2263).

Herman O. Anderson, 6 Sixth Street, N. W., Minot, N. D., and **Harold W. Gunn**, 915 Eighth Street, N. E., Minot, N. D., for a certificate authorizing scheduled mail, passenger and property service over a 455-mile route between Minot, N. D., and Minneapolis-St. Paul, Minn., via Fargo, N. D. (Docket 2265).

Caribbean-Atlantic Airlines, Inc., P. O. Box 3214, San Juan, Puerto Rico, for an exemption order authorizing scheduled mail, passenger and property service between Christiansted, St. Croix, Virgin Islands, and Curacao, N. W. I., via St. Martin, St. Kitts and Antigua, B. W. I.; Guadeloupe and Martinique, F. W. I.; St. Lucia, Barbados and Trinidad, B. W. I.; and La Guaira, Venezuela. (Docket 2249).

Caribbean-Atlantic Airlines, Inc., P. O. Box 3214, San Juan, Puerto Rico, for an exemption order authorizing scheduled mail, passenger and property service between San Juan, P. R., and Kingston, Jamaica, via Ciudad Trujillo, Dominican Republic, and Port-au-Prince, Haiti. (Docket 2250)

Del-Air, Inc., 25½ Highland Park Village, Dallas 5, Texas, for a certificate authorizing scheduled mail, passenger and property service over 1220 miles of routes between Dallas and Port Arthur-Beaumont; between Texarkana and Austin; between Port Arthur-Beaumont and Dallas; and between Texarkana and Dallas, all via various intermediate points. (Docket 2258).

Inland Air Lines, for an exemption order authorizing scheduled mail, passenger and property service between Pierre, S. D., and Minneapolis-St. Paul, Minn., or in the alternative, between Pierre and Sioux Falls, S. D. (Docket 2266).

Northwest Airlines, Inc., for removal of the restriction in its certificate for Route 69 which prevents service east of Milwaukee except on flights originating at Twin Cities or a point west and terminating at New York or Newark, or on flights originating at New York or Newark and destined for Minneapolis-St. Paul or a point west. (Docket 2272).

Pacific Air Lines, 7000 Hollywood Blvd, Los Angeles 28, Calif., for a permanent or temporary certificate authorizing scheduled mail, passenger and property service between Los Angeles and Sacramento, Calif., via Las Vegas and Reno, Nev. (Docket 2267).

Pacific Air Lines, 7000 Hollywood Blvd, Los Angeles 28, Calif., for a permanent or temporary certificate authorizing scheduled mail, passenger and property service between Los Angeles and Seattle via Sacramento and Red Bluff, Calif., and Eugene and Portland, Ore. (Docket 2268).

Rukert Terminals Corp., 1409 Thames St., Baltimore, Md., for a permanent or temporary certificate authorizing indirect air transportation as a freight forwarder from Baltimore, Md. (Docket 2264).

Southwestern Air Mail Service Co., 3924 Cumberland St., El Paso, Texas, for a permanent or temporary certificate authorizing mail pick-up service over two circle routes, totaling 901 miles, out of El Paso. (Docket 2271).

Trans-Canada Air Lines, P. O. Box 2973, Winnipeg, Manitoba, for a foreign air carrier permit authorizing scheduled mail, passenger and property service between Halifax, Nova Scotia, and Boston. (Docket 2253).

Trans-Canada Air Lines, P. O. Box 2973, Winnipeg, Manitoba, for a foreign air carrier permit to authorize scheduled mail, passenger and property service between Toronto, Ontario, and Cleveland. (Docket 2254).

Trans-Canada Air Lines, P. O. Box 2973, Winnipeg, Manitoba, for a foreign air carrier permit to authorize scheduled mail, passenger and property service between Toronto, Ontario, and Chicago. (Docket 2255).

Trans-Canada Air Lines, P. O. Box 2973, Winnipeg, Manitoba, for a foreign air carrier permit to authorize scheduled mail, passenger and property service between Port Arthur, Ontario, and Duluth, Minn. (Docket 2256).

Trans-Canada Air Lines, P. O. Box 2973, Winnipeg, Manitoba, for a foreign air carrier permit to authorize scheduled mail, passenger and property service between Victoria, British Columbia, and Seattle. (Docket 2257).

Calendar:

May 6—Oral argument in the North Control case. (Docket 415 et al.) 10 a. m., Room 5042, Commerce Bldg.

May 6—Briefs due in the Kansas City-Memphis-Florida case. (Docket 1051 et al.) Postponed from April 8 at the request of Braniff and C&S.

May 6—Exchange of exhibits in the Chicago-Seattle case. (Docket 1303 et al.)

May 13—Rebuttal exhibits due in the Chicago-Seattle case. (Docket 1303 et al.)

May 15—Prehearing conference on United Air Lines' Detroit-New York and Allentown-Detroit non-stop applications. (Dockets 2216 and 2277). 10 a. m., Room 5132 Commerce Bldg.

May 15—Briefs due in the Middle Atlantic area case. (Docket 674 et al.)

May 15—Exhibits due in Pan American Airways' U. S. domestic routes case. (Docket 1803). Postponed from April 15 at PAA's request.

May 16—Briefs due in the Braniff-C&S route consolidation case. (Docket 1154 et al.)

AMERICAN AVIATION
Operations and Maintenance Review
Including
COMMUNICATIONS—NEW EQUIPMENT—AIRPORTS

Researchers Find Answer to Precipitation Static

Army-Navy Project Ends Three Years of Study

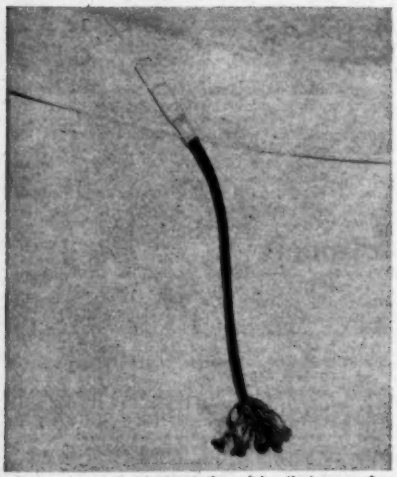
THE ARMY-NAVY Atmospheric Electricity Project, Wold-Chamberlain airport, Minneapolis, announced last fortnight a practical answer to precipitation static in aircraft. The announcement, made at a symposium for commercial airlines and aircraft manufacturers, culminated three years of research.

Dr. Ross Gunn, chief physicist of the Naval Research Laboratory and technical director of the project, said the elimination of precipitation static was dependent upon the elimination of corona on or near the aircraft's antenna. This can be done in three ways:

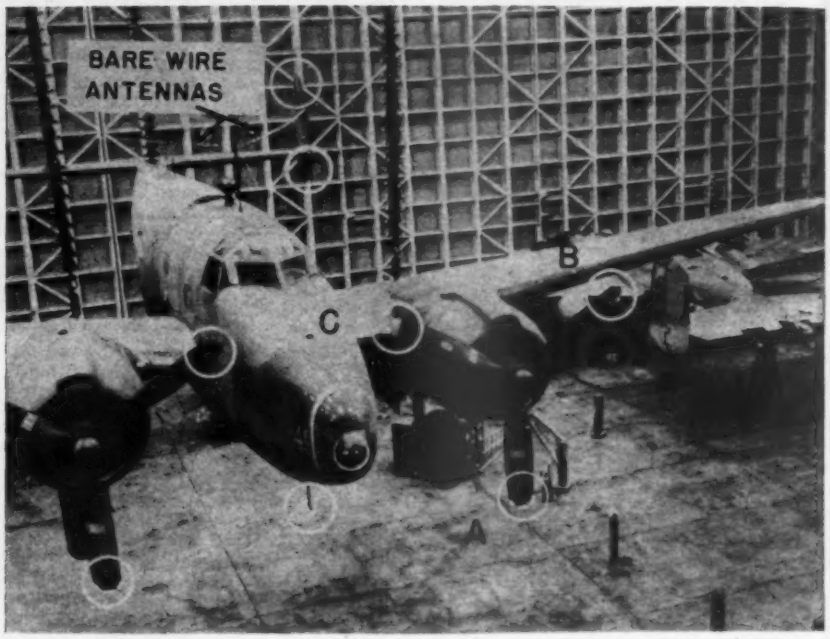
1. The electric field of the airplane can be reduced by the use of electrostatic discharges which reduce the amount of stored charge and thereby lower the field. The project has developed a silver-impregnated cotton wick, about 12 inches long, with frayed ends, to carry away this discharge.

2. Antennas may be placed in shielded positions on the airplane. Since corona always breaks out first on the exposed points of small radii of curved surfaces, the corona can be transferred away from the antennas to more exposed points if the antenna is brought within the area shielded by more exposed points.

3. Antennas and antenna masts may be covered with insulation of high dielectric strength which will prevent corona discharge from the antenna even though the surface field remain high. The best insulation material for this purpose found by the project is a recent plastic development which accomplished the desired effect, namely, polyethylene.



Installation of electrostatic wick discharger is illustrated here. Ten to 12 of these are recommended for an average plane, installed on points where corona is most likely to occur—exposed surfaces with small radii of curvature. Such installations have reduced charge on airplane by 50%.



Corona bursting from the extremities of the suspended bomber when the charge on the airplane exceeds the dielectric strength of the surrounding air.

Precipitation static is the noise caused in an aircraft radio receiving system when the charge of static electricity on the airplane is discharged into the air in the form of corona. Dr. Gunn explained that the aircraft receives this charge in two ways:

An "autogenous" charge (self induced) is caused by rapid passage of the airplane through dry particles (ice crystals, snow, dust), and "exogenous" charge (externally caused) is the result of current, from adjacent highly charged clouds, passing through the airplane.

Dr. Gunn said that when corona does appear, the plane soon reaches a state of equilibrium in which the charging rate and the discharge rate are about equivalent. This produces a steady corona, hence a steady and constant interruption to radio communications.

As a result of the project's findings, the Air Transport Command has ordered all of its new planes equipped with the latest of the project's anti-static devices, and Northwest Airlines has experimented with installations on its commercial aircraft.

W. Fiske Marshall, Northwest's vice-president-operations, said: "We have found these installations so valuable that the company plans to place production models on all of its aircraft as soon as practicable."

The project recommended that in the future greater attention be given to antenna design which not only would reduce the precipitation static problem, but would result in a much cleaner airplane aerodynamically. Future aircraft should have as few exterior antenna as possible.

These were specific recommendations by the project to overcome precipitation static:

1. Installation of polyethylene wire antennas, with solices covered with polyethylene tape.
2. Removal of undergrounded metal masts and relocation of metal projections near antenna.
3. Relocation of abnormally high antennas.
4. Installation of electrostatic wick dischargers.
5. Removal of floating sections in antenna system.
6. Installation of special tension units and lead-ins, which will permit polyethylene insulation on antenna wires to extend unbroken inside the airplane.
7. Installation of indicators to show when the polyethylene insulation on the antenna is punctured.

Alaska Airlines Buys C-47s, Soon Will Purchase 2 DC-4s

Alaska Airlines has purchased an additional four C-47s and will reconvert them for passenger use. Two of the planes are now engaged in cargo operations between Seattle and Alaska, a service authorized by the CAB because of a longshoremen's strike which has tied up all steamship lines normally serving Alaska.

The company expects to place in service during the next few weeks two DC-4s.

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Sperry System Represents Extensive Research

Proposal Seeks Solution Of All-Weather Problem

By SYDNEY CARTER

BOTH FROM the standpoint of the thinking on which they are based, and the manner in which they are being developed and presented, the proposals of Sperry Gyroscope Co. for a comprehensive system using CW microwave techniques for guidance and pulse techniques for surveillance are among the most impressive yet offered as an ultimate solution to the air navigation-traffic control-instrument landing-all weather flying problem.

For more than six years Sperry has conducted an extensive development and flight research program aimed at developing an ultimate system, but at the same time realizing that each component should be designed as much to possess maximum flexibility for the finally evolved system as to provide a satisfactory element for its own specific proposals.

Sperry has formed the opinion that the ultimate system must utilize continuous waves for all guidance functions, and should operate in the microwave portion of the spectrum.

While this thinking eliminates radar or pulse techniques as far as guidance is concerned, it does recommend their use for surveillance primarily in the form of ground stations.

Specific elements of the Sperry system include an automatic approach control device now in the product stage and available as an accessory for the A-12 Gyropilot. This device in its present form is designed to operate with the standard SCS-51 VHF glide path and localizer, although experimental models have been flight tested extensively with Sperry's own microwave instrument landing system.

A second component—the microwave instrument landing system operating in the 2600 mc region—is far advanced in the development stage, having been flight checked extensively at many airports of varying characteristics. Sperry engineers are contemplating further improvements including a switch from the 2600 to the 5000 mc region, and a lightening of the airborne receiver from its present 68.5 lbs.

Ground transmitting equipment consists of two independent trailer units, one housing the localizer and the other the glide path transmitter. A temperature controlled quartz crystal is used to generate the basic signals which are then multiplied in frequency until the required microwave signals are obtained. Klystron tubes are used in the final frequency multiplier and power amplifier stages.

The main transmitting equipment in both glide path and localizer trailers is practically identical. In fact, one of the main features of the Sperry proposals both from a production and maintenance standpoint is that similar transmitter units are used to generate the basic signals for glide path, localizer, omni-azimuth range and distance indicator, and presumably will be used for navigation devices and voice communications as they are added to the system provided the channels are spaced in the same general region of the spectrum.

At the present time this basic equipment consists of a four-channel transmitter (only three channels are used for the glide path or localizer) made up of two main units of three decks each with the control station located in between. Special attention has been given to ease of operation and maintenance, and once the transmitter has been tuned for the proper channel, it can be turned on and off by an unskilled operator who simply throws a few switches. All decks can be pulled out easily for maintenance and inspection, and all but the microwave deck can be rotated through 90 degrees for access to the bottom.

In addition to the transmitting equipment, each trailer includes a gasoline driven generator with sufficient fuel for 25 hours and all necessary equipment for setting up and monitoring the microwave signals. Once set up, the equipment requires no further attention unless moved to another location.

The localizer has a coverage of 180 degrees for ranges up to 20 miles and 40 degrees for reliable all weather ranges up to 50 miles. Minimum off-course angle required to produce a full scale deflection of the cross pointer needle is plus or minus 1½ degrees for the localizer and plus or minus .3 degrees for the glide path without course softening, and plus or minus 3 degrees for the localizer and plus or minus .6 degrees for the glide path with course softening. The course softening feature automatically widens the course as the aircraft approaches the runway to prevent hunting. Adjustable limits of the glide path angle are from 2½-4 degrees.

Airborne equipment consists of a triple dipole antenna mounted on a three-foot streamlined post, a superhetrodyne receiver with shock mount designed to receive both localizer and glide path signals in any one of the three possible channels simultaneously, a cross pointer meter, control box, junction box, power pack and connecting cable. Total weight is 68.5 lbs.

The Sperry cross pointer meter varies from the conventional type in that it has two mutually perpendicular needles which intersect over its hemispherical face. A miniature aircraft on the face establishes the relationship between the real aircraft and the landing path; and to bring the real aircraft into the landing path, the pilot merely flies the miniature aircraft toward the intersection of the two needles. The cross pointer also is equipped with two small neon lamps—one for the localizer and the other for the glide path needle—which are illuminated only when the equipment is turned on and satisfactory landing path signals are being received.

For automatic airport traffic control Sperry proposes two additional components—a microwave omni-azimuth range and a microwave distance indicator. An experimental model of the former has been built and extensively ground tested at MacArthur Field. An experimental distance indicator using the measurement of electrical phase principle likewise has been built and tested, but while results were satisfactory, Sperry engineers are now concentrating on another type using a measurement of frequency principle, and expect to have an experimental model ready for testing shortly.

Fifth of a Series

This is the fifth of a series of articles dealing with all-weather proposals. Another installment will appear in a forthcoming issue of AMERICAN AVIATION.

The micro-wave omni-range utilizes the same transmitting unit for generating the basic signals as does the landing system, but employs a small vertically stacked dipole antenna array which is mechanically rotated at 3,600 rpm while radiation takes place, and has an azimuth distribution which is approximately a sine wave. Thus a receiver tuned to the carrier receives sine wave output at a frequency proportional to the rotational frequency of the antenna, and with its phase dependent on azimuth angle. A reference voltage generator connected to the same motor shaft which rotates the antenna gives a sine wave voltage output with its frequency likewise proportional to the antenna rotational speed, but with phase remaining the same regardless of azimuth position from which it is viewed. This difference in phase is measured automatically in the aircraft to give its azimuth position.

Airborne equipment consists of a modified instrument landing receiver (ultimate Sperry plans call for the same receiver to be used for both functions), a 70 kc IF limiter and discriminator, phase shifter and detector, motor and motor amplifier, and some sort of indicator. Sperry engineers at present favor some type of map indication, which in conjunction with the automatic distance indicator gives complete ground positioning information in the aircraft.

The proposed distance indicator is designed to give an accurate distance indication between one and 100 miles in both the aircraft and at the ground station, and consists of a signal which is transmitted by the aircraft to the ground and back to the aircraft and measured to determine the lowest frequency producing a 360 degree phase shift for the two-way transmission. Airborne equipment consists of a variable frequency oscillator which is constantly tuned by a servo from 930 cycles to 93 kc (this frequency can be changed if other limits of distance are desired); a microwave transmitter which transmits the output of the oscillator to the ground station; a microwave receiver (the same as used for other functions); and a phase detector which compares the output signal of the receiver with the transmitted signal. When a 360 degree phase shift is detected, the motor driving the oscillator is stopped and held on frequency, changing it from then on only as distance changes. The scale of the aircraft signal generator is calibrated in miles, and the indication can be given either on a dial or a map indicator.

Ground apparatus consists of a receiver to pick up the signal, a transmitter to re-transmit it, and frequency measurement equipment or spectrum analyzers to convert the modulation frequency back to distance data for ground information.

In general this traffic control system resembles the Lanac transponder beacon system except that the aircraft microwave transmitter serves as the transponder, and the omni-range as the ground challenger, with the aircraft being separated in azimuth by time of transmission and in distance by the frequency of the modulation transmitted by the aircraft. It is also possible to introduce further signals giving altitude and identity information, according to Sperry engineers.

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Diesel Engine Designer Tests 125-Hp, 235-Lb. Plant in Stinson 110

With block tests completed, Fred A. Thaheld, diesel engine designer, has installed his newly developed 125-hp four-cylinder opposed, air cooled diesel engine in a Stinson 110 for flight tests and has applied for its certification by the Civil Aeronautics Administration.

Flying the craft himself, Thaheld demonstrated the engine aloft at Long Beach Municipal Airport, displaying performance equal to that of a plane with a comparable reciprocating gasoline fueled power plant. Thaheld, however, claims a better rate of climb for the Stinson 110 equipped with the diesel.

After the engine is certificated, Thaheld said it is planned to organize a new company for production work. The prototype model was made by Shaffer Tool Works at Brea, Calif. and Donald Shaffer, president of the company, probably will head the new concern.

Thaheld reported that Globe Aircraft Co. of Forth Worth, manufacturer of the Swift, is interested in the engine.

The engine's principal selling point is its fuel economy. Thaheld claims a light plane powered with his diesel engine can be operated at one-tenth the cost of the same plane powered by a comparable conventional engine. Thaheld gives fuel consumption of his engine at three gallons of low cost diesel fuel per hour, but adds that by careful operation this can be reduced.

The power plant weighs 235 pounds and has a piston displacement of 290 cubic inches. In demonstrations it was shown that the engine starts easily and that it accelerates as easily as a gasoline fueled power plant.

After the four-cylinder model goes into production, Thaheld will complete the development of a six-cylinder opposed engine on which he already has started. Then, he said, he will go to work on heavy horsepower radial diesel for airline application.

Engineer's 4-Place 'Auto' Reaches Mock-Up Stage

George H. Hervey, consulting engineer of Roscoe, Calif., reports that his "Travelplane" Model 25, a four-place roadable aircraft, has reached the mock-up stage. The flying auto has a wing span of 36 feet, is 26 feet 8 inches long, and 8 feet, 7 inches high. It is powered by a 200 hp Ranger, driving either the propeller or the two main wheels of the tricycle landing gear.

GE Expert Predicts Use of Gas Turbines in Four Years

E. S. Thompson Urges Tests By Airlines on Cargo Runs

E. S. THOMPSON of General Electric Company's aviation division expressed the hope last fortnight that GE's TG-100 aircraft gas turbines would have passed all requirements and would be ready for use on passenger transports by 1950.

He recommended that the airlines experiment with the power plant on cargo flights before introducing it into passenger use. Thompson's views were given at the recent New England Aviation Conference in Boston.

These were other points in Thompson's talk:

- Engineers have been "considerably cheered" by the success of the axial flow jet engine known as the TG-180 which had its first flight in the Republic XP-84 early this year.
- The reciprocating engine remains superior to any other for flights of 10,000 miles at speeds of less than 400 mph. Jet is superior on flights of 2000 miles at speeds of 600 mph. or better.
- Helicopters can be powered by the installation of jet nozzles at the tips of rotor blades. If this is accomplished, it will mean a compromise with the aerodynamicist to obtain the optimum shape for the combustion chamber.
- Although it is entirely possible to convert the energy released by atomic disassociation into hot gas or steam which can then be used to drive a turbine connected to propellers or discharged through jet nozzles, protective devices for personnel are so heavy as to be prohibitive for aircraft use.
- Jet engines have no potential for the light plane field, but the aircraft gas turbine driving the propeller does offer certain advantages, because of its simplicity, lighter weight and cheap fuel.

Maxson Corp. Starts Production on Ovens For Commercial Airliner Food Service

W. L. Maxson Corp., has begun production at its new plant at Norwich, Conn., where it is turning out Maxson Whirlwind ovens for use in commercial aircraft. Pan American Airways has placed substantial orders for the ovens and contracts with other air carriers will be signed.

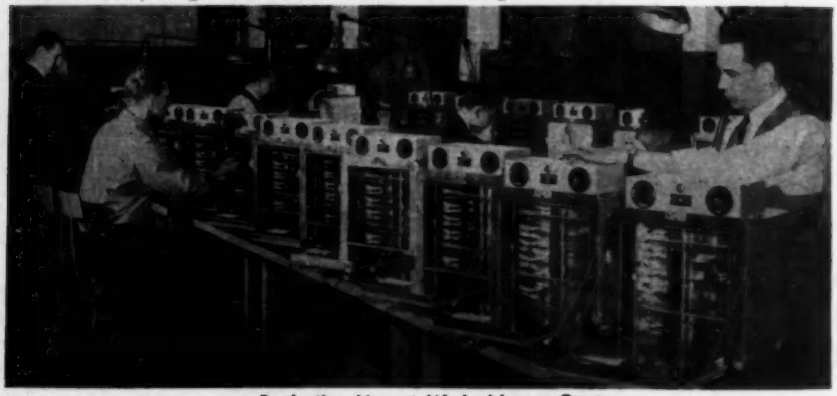
The Maxson oven first was used by Naval Air Transport Service, which served some 400,000 meals with the units on overseas flights. Each of the aircraft ovens now in use has six tiers accommodating a similar number of meals.

Pan American is using two ovens in its aircraft. They are of aluminum and stainless steel, weigh about 35 lbs. each. A fan in the rear distributes the heat evenly.

Following a brief pre-heating period, the thawing and final cooking of partially pre-cooked and frozen meals takes about 15 minutes in the Maxson oven.

Facilities have been established within more than 100,000 feet of factory space at the Norwich plant to fabricate and assemble not only Whirlwind ovens, but several other versions of the Maxson invention, including a model suitable for home use.

The company anticipates that its production will reach substantial volume by the end of 1946. The Norwich plant was occupied by Hamilton Standard Propellers during the war.



Production Line at W. L. Maxson Corp.

Lederer Recommends Crash Location Signal For Transport Planes

A device which automatically will send a location signal after a plane crashes should be installed on large aircraft in order to facilitate rescue work and to avoid the high costs of air search in isolated areas, Jerome Lederer, chief engineer of Aero Insurance Underwriters, told a recent Society of Automotive Engineers meeting in New York.

"Crash rescue operations are only at the threshold of development necessary to make them effective to cope with the needs of the future," he said. "Alert airline management should designate personnel to familiarize themselves with all aspects of saving occupants when a crash occurs.

"A primary consideration is, of course, the various types of alarms. There is the alarm or distress signal radioed by the pilot if he can do it. Very often there is no time for a signal, the airplane crashes

without warning; then it may take days and even months to find the crash; survivors die; the cause of the accident is not determined in time to prevent possibility of a repetition.

"The problem is to install a device which automatically will send a location signal after a plane crashes. The idea is not new but probably in the past it has not been economically important enough to develop such a device. Some airline operators would oppose its weight. But with million dollar aircraft carrying 50 to 100 or more people over all the remote areas of the world, the pressure of public opinion and economics will require an automatic crash signalling device.

"Such a device should help locate a crash with little delay, thus hastening the rescue of occupants and salvage of cargo. The cause of an accident would be determined sooner, possibly in time to avoid another, and the often enormous cost of organizing searching parties would be reduced. The search for Amelia Earhart and the Russian flyers lost in Northern Canada before the war cost hundreds of thousands of dollars if not millions. Humane and economic considerations point to the development and installation of an automatic disaster alarm.

"One device suggested is a small radio to be carried in the tail and operated by an impact switch. The necessity for carrying and maintaining a charged battery might be eliminated by carrying sulphuric acid in a relatively fragile sealed container. The impact would break the container letting the acid mix with the water to form the electrolite.

"The alarm signal sent from the airplane is probaly the least complicated of the alarm requirements. The airport alarm system is not so simple. An airplane crashes on an airport. A whole series of events must be sounded off by the alarm on the field. Every second counts. The alarm need not arouse the whole field but it has to get to many places. The crew of the crash-truck or boat must be notified, of course. The city fire department, the hospital, the police, the airport managers office, all must get the signal. The control tower usually acts as switchboard. At airports where there is no control tower the local manager of the airline should bear the responsibility for coordinating the alarm signals. It is important to have all procedures and rescue arrangements organized in advance and to practice them."

Decision on Powered Sailplanes

The CAA has decided that a proper classification for the auxiliary powered sailplane designed by William Hawley Bowlus is "special purpose aircraft," and upon completion of its tests, this is the category under which it will be certificated. The plane is assembled by Nelson Aircraft Co. at San Fernando, Calif. A newly developed engine of 22 to 24 horsepower will be used in production models. Two other sailplane manufacturers are reported ready to introduce auxiliary power craft. They are Leister-Kauffmann Aircraft Corp. of St. Louis and Schweizer Aircraft Corp., Elmira, N. Y.

What is described as "the first complete story of airborne radar" has just been issued by Philco Corp. in the form of a profusely illustrated 32-page booklet entitled "Radar on Wings."

New Equipment

GE Flying Radiophone

Twelve aircraft manufacturers are reported to have placed orders for General Electric Co.'s 12-pound transmitted-receiver unit, now being produced at a rate of 800 sets per month. Instrument panel installation (see cut) permits removal or replacement of the

compact unit in a matter of seconds. Set can be used either with headphones or an overhead speaker. Fixed wire rather than trailing antenna is used, and the radio operates directly from a 12-volt airplane generator and battery.

Simple Jack for Small Planes

Cut shows a simplified lightplane jack, made of welded aircraft tubing, now being produced by Consolidair, Inc., Alliance, Ohio. Called the "Quik-Lift" jack, it has a ratchet

which locks the jack in place at any desired position, and a trigger release on the handle which permits gentle lowering of the wheel after work is completed.

'Bean Soup' for Airport Fires

National Foam System, Inc., of Philadelphia, is now marketing commercially a soy bean ingredient foam fire fighting system which was widely used during the war by the Navy in combatting shipboard and carrier flight deck fires. The National 'Aer-o foam' system mixes fresh or salt water with foam-forming liquid in a special nozzle, and the manufacturer reports that five gallons of the liquid is sufficient to produce approximately 800 gallons of thick foam. In 60 seconds the nozzle with proper pumping equipment or hydrant pressure can lay a six inch blanket of foam over a 300 square foot area. While sufficiently liquid to flow freely, the bean soup foam will cling to vertical or angular surfaces, and will retain its mass of bubbles for several hours even in heavy winds. On petroleum fires it is used to blanket the fire and free oil, keeping out oxygen and sealing in combustible gases. On gasoline fires the foam can be used as foam-fog or in conjunction with water fog.

Positioning-Holding Tool

Illustration shows the cylinder head adapter unit available for use with Garfield Engineering Co.'s "Powrarm" positioning

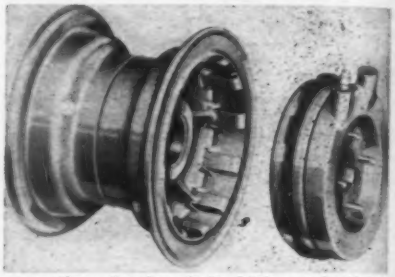
bench tool. Hydraulic pressure against a ball and socket joint in the "Powrarm" permits setting and locking work in any desired position along a 90 degree arc from horizontal to vertical, and around a complete horizontal circle. Model H1A positioner sells for $30 fob factory. Price of the cylinder head adapter set is $14.45. Other adapters are available for single and dual barrel carburetors, radio chassis, magnetoes and for welding and hard surfacing. Descriptive literature, mentioned in the last issue, is available from Garfield Engineering Co., 124 S. Market, Wichita 2, Kan.

McCauley Light Aluminum Prop

An all-metal propeller for aircraft using Continental A65, A75, C75 and C85 engines has been developed and tested by the McCauley Corporation, Dayton 7, Ohio. Known as the 'Met-L-Prop,' it is made of corrosion resistant light aluminum, and advantages claimed for it include shorter take-off run, faster rate of climb and faster cruising.

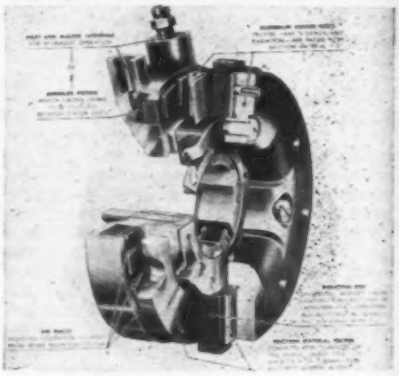
Firestone Aircraft Brake

Shown below are external and cutaway internal views of Firestone's new aircraft brake which features a "built-in cooling system." Adaptable to planes of all sizes, the brake features fabricated stator discs, for friction surface, of a thin sheet of high conductivity copper backed by a disc of light aluminum alloy. Faster heat dissipation from the brake is claimed because the alumi-



num alloy disc has both high conductivity and extra heat storage capacity, with subnormal temperature on the friction surface and high temperature on the outer radiating surface.

The brake, structurally, is a simplified conventional single-disc brake with the magnesium casting containing a hydraulic annular piston unit and acting as a base for all major parts of the brake. A disc of molded



brake lining, between the stator disc and back thrust plate, has lugs on the outer circumference which engage with notches in the wheel to set up rotation with the wheel. Application of hydraulic pressure to the rotating lining disc squeezes it between the stator disc and back thrust plate to develop frictional brake torque. Upon release of pressure, built-in release springs separate stator disc and back thrust plate to permit rotation of the lining disc without drag.

Technical Booklets

Bowser, Inc., manufacturers of fuel storage and dispensing equipment for airports, has issued a booklet giving detailed descriptions of its latest developments and accessories. Copies available from the firm's home office, Ft. Wayne, Ind.

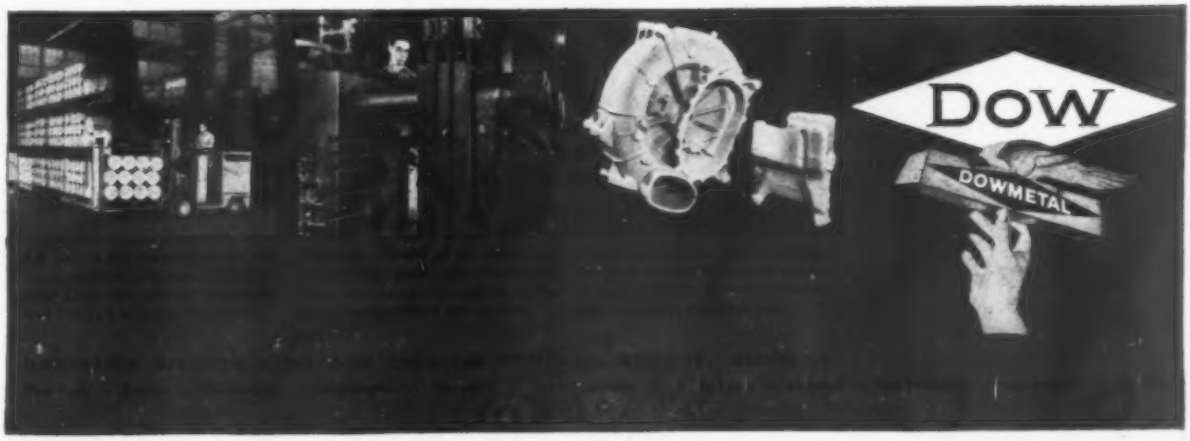
Kollsman Instrument Division, Square D Co., Elmhurst, N. Y., has released a descriptive folder covering its new line of Scout instruments for private planes.

Keystone Asphalt Products Co., 40 E. Ohio St., Chicago 11, Ill., has prepared a new Keystone paving products catalog listing and illustrating the company's line of paving joints, sealing compounds, concrete curing compounds and sewer joint compounds.

Ready... to make products move!

MAGNESIUM

LIGHTEST OF ALL STRUCTURAL METALS



Growing Materials Shortage May Close Several Factories

Boeing Forced to Lay Off Workers in Seattle Plant

By CHESTER R. VENEMANN

THE ACUTE and rapidly mounting shortage of critical aircraft manufacturing materials is nearing a point where several aircraft factories may be closed down altogether by the time this is published. Boeing Aircraft announced more than a week ago that it had been forced to lay off 175 workers at its Seattle plant, and that "as present work in the factory runs out and materials fail to arrive from the suppliers, additional temporary lay offs will undoubtedly be necessary."

Hardest hit of the plane manufacturers are those in the lightplane field. The fabric shortage, already high because of labor troubles and OPA difficulties, has been made worse by a recent CAA change in specifications calling for greater strength in the material. The Aircraft Industries Association has informed the Civilian Production Administration that "a large portion of the personal aircraft producers will be forced to curtail or shut down production within three to four weeks." That was two weeks ago. Flightex Fabrics, Inc., of New York, which supplies almost all of the fabric used in lightplane manufacture, has notified the AIA that it can meet only 30 per cent of the total demand in the next three or four months.

Transport manufacturers are facing an increasing shortage of steel and sheet aluminum, especially in 75s aluminum, a new alloy produced only by Aluminum Company of America. Alcoa officials say that the bulk of its products is now going into the building of houses, trucks and buses and household equipment. They point out that large as the aircraft industry is, it still takes but a minor part of the total aluminum production, and aircraft needs are generally of such high technical specifications that the suppliers are likely to give preference to industries placing larger orders.

Aluminum salvaged from scrapped war planes is worthless for new plane construction and new aluminum stockpiled after the termination of war contracts has been virtually exhausted. AIA officials have been informed that new orders for aircraft aluminum must wait between 11 and 15 months before delivery can be expected.

The same situation holds generally with the output of aircraft steel. The steel industry, already crippled by the recent steel strike, has now been caught in the current soft coal work stoppage. The resulting lack of coke for steel production has forced several large plants to close down entirely. Industry figures last week indicated total production at about 40 percent, and it isn't likely that the big producers will go much below that point without closing down entirely.

● Rolls-Royce reports that its latest jet engine, the R.B. 41 "Nene" will develop a thrust of 5,000 pounds, which at 600 mph would give it the equivalent of 15,000 hp, making it by far the most powerful aircraft engine ever built. The engine weighs only 1,550 lbs., a rating of about 10 hp per pound at 600 mph. Rolls-Royce engines have been used in the U. S. AAF P-80, but the British are developing it principally for use in transports.

● Bell Aircraft has ordered 500 Aircooled Motors, Inc., Franklin helicopter engines for its Model 47 helicopters, now coming off the production line. The Franklin, which was designed for the Bell helicopter, is an aircooled, six cylinder, opposed-type engine of 335 cubic inches displacement, developing 178 hp at 3000 rpm.

● Lockheed has set up a complete supply and overhaul base for Constellations at Linden Airport, N. J., to provide maintenance facilities for the planes on the east coast. The plant will be staffed and equipped to supply spare parts and operate facilities for the repair and overhaul of the planes. Walter McGinty will head the staff of mechanics and engineers at the new plant.

● Timm Aircraft Corp. of Van Nuys, Calif., hit a record reconversion schedule in March by completely overhauling seven 21-passenger standard transports for Transcontinental and Western Air. To date the company has modified 24 twin-engine passenger ships and 110 twin-engine Army night fighters.

● Production of the Republic Aviation Corp. four-place "Seabee" amphibian is to be stepped up to 5000 this year, according to Alfred Marchev, president. Assembly-line production is to start in May and will reach 40 a day by August. The Seabee will sell for $3,995 flyaway at the Farmingdale, N. Y., factory.

● The deHavilland Co. of Canada will resume production of the Fox Moth, four-place biplane, following termination of the firm's wartime contracts. The basic design of the Moth will be the same as the pre-war model, but the power has been stepped up to 140 and a number of refinements have been incorporated in the post-war job.

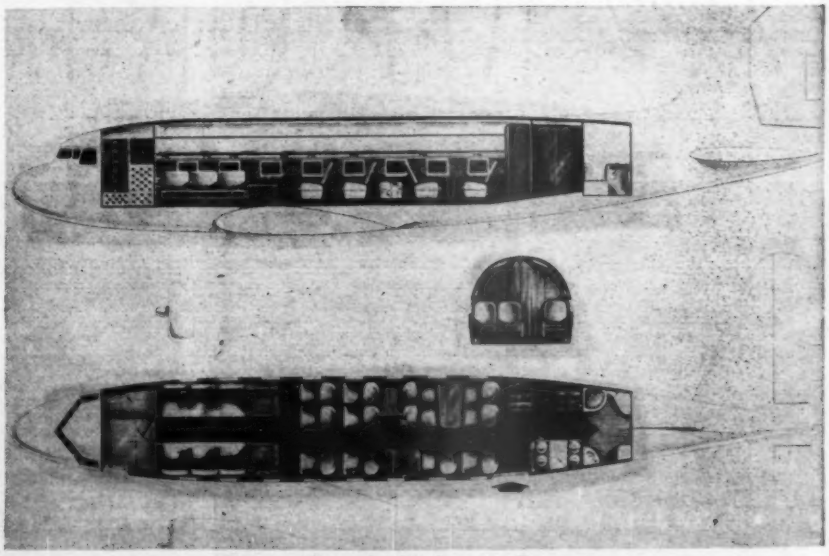
Douglas Finds Market for DC-3 'Executives,' Refits Surplus C-47s to Sell at $115,000

Douglas Aircraft has accepted orders for four of its converted DC-3s for executives, and has several other prospective purchasers "on the string," according to Marshall S. Neal, Douglas sales representative who has charge of the planes. The "executives" were advertised earlier this month in national magazines. Douglas hopes to make delivery in July to the first purchasers, which include a speedboat and yacht producer, an oil company, a nonscheduled airline president, and a manufacturer. Prospective buyers include a motion picture producer and two manufacturers.

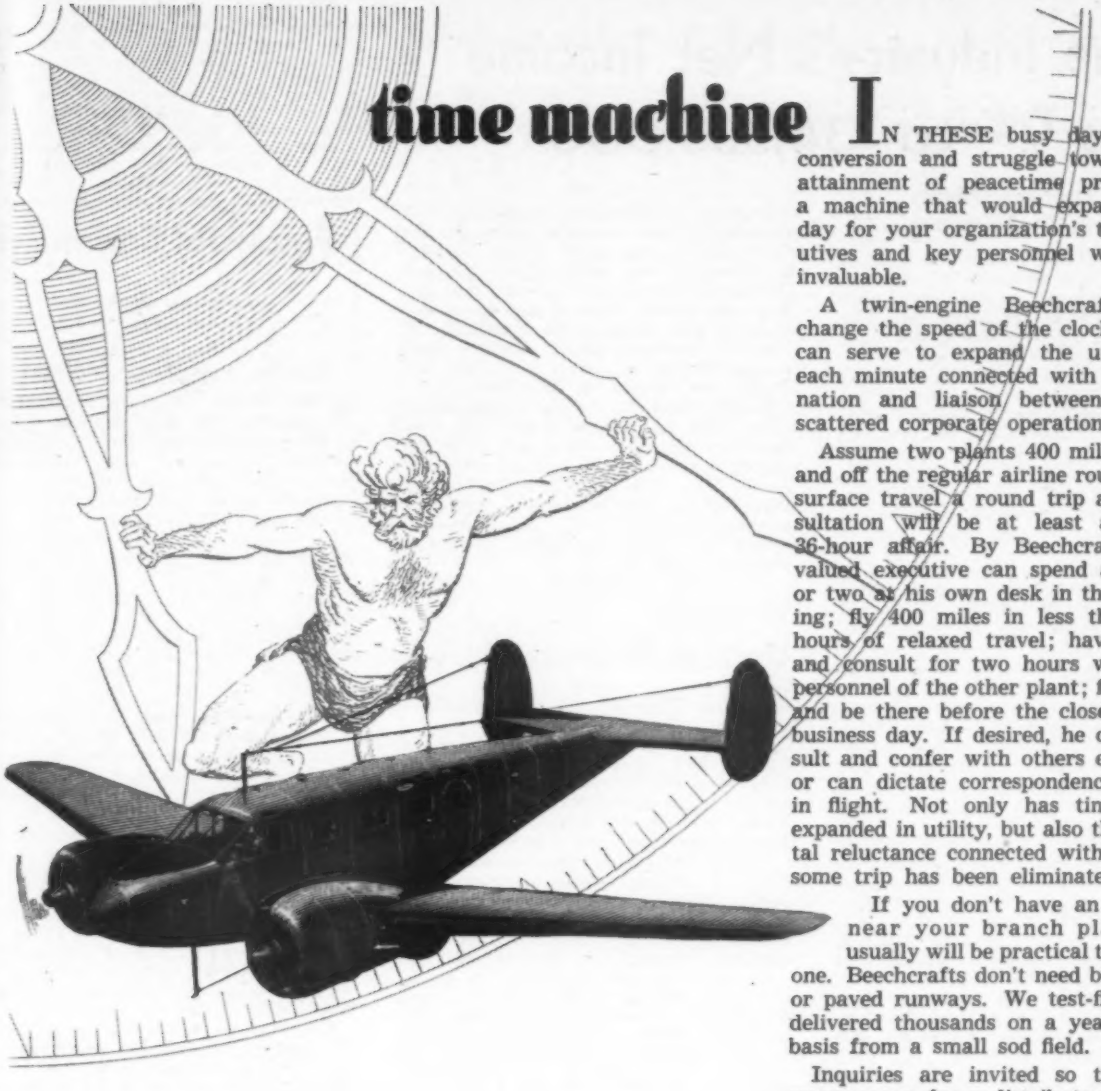
Neal says Douglas became convinced there was a market for the executive plane after they had turned down at least 20 requests for such a ship. They are now buying surplus C-47s from the War Assets Administration at $20,000 each and are rebuilding and refitting them to sell for $115,000. They insist the plane is a bargain at that price because a new DC-3 so outfitted would cost at least $225,000.

The executive plane is built on order only and to the buyer's specifications, but generally will be of much the same pattern. The standard job will seat 18 passengers in individual seats and four lounges which can be quickly converted into four beds. Curtains built into the ceiling can be pulled down to divide the cabin into sleeping compartments. Other accoutrements include built-in radio, secretarial desk, card tables, a buffet kitchen, and two baggage compartments. The cabin is lined with a double thickness of glass fibre soundproofing material to "make the cabin as quiet as a conference room."

Neal will readily admit that the probable operating costs of the plane are as high as they are inestimable and will depend largely on the extent that the plane is used. He hazarded a rough guess at "around $3,000 a month for the average company," but he pointed out that "anyone who has to worry about operating costs has no business thinking about the executive plane in the first place." Douglas is basing its sales plan around the idea of time-proven dependability of the DC-3 and the wide availability of maintenance "know-how."



Cutaway Views of DC-3 Executive Transport



time machine

IN THESE busy days of reconversion and struggle toward full attainment of peacetime production a machine that would expand each day for your organization's top executives and key personnel would be invaluable.

A twin-engine Beechcraft can't change the speed of the clock, but it can serve to expand the utility of each minute connected with co-ordination and liaison between widely scattered corporate operations.

Assume two plants 400 miles apart and off the regular airline routes. By surface travel a round trip and consultation will be at least a tiring 36-hour affair. By Beechcraft your valued executive can spend an hour or two at his own desk in the morning; fly 400 miles in less than two hours of relaxed travel; have lunch and consult for two hours with the personnel of the other plant; fly home and be there before the close of the business day. If desired, he can consult and confer with others en route or can dictate correspondence while in flight. Not only has time been expanded in utility, but also the mental reluctance connected with a tiresome trip has been eliminated.

If you don't have an airport near your branch plants it usually will be practical to create one. Beechcrafts don't need big fields or paved runways. We test-flew and delivered thousands on a year-round basis from a small sod field.

Inquiries are invited so that we can arrange for a distributor to call and present facts and figures and arrange for a demonstration, without obligation.

WE INVITE INQUIRIES ABOUT THE WORLD-FAMOUS D18S TWIN-ENGINE BEECHCRAFT AND ITS APPLICATION TO CORPORATION USE. FACTS, FIGURES, AND DEMONSTRATIONS ARE AVAILABLE WITHOUT OBLIGATION.

Beech Aircraft

CORPORATION

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WICHITA, KANSAS, U. S. A.

Airline Industry's Net Income Drops 9% to $34,533,000

Rise in Expenses Offsets 34% Gain in Revenues

WITH A 46% rise in expenses offsetting a 34% gain in revenues, the domestic airline industry's net income before taxes dropped off 9% to $34,533,000 last year, compared with a high of $38,166,000 registered in 1944. (Note Table below).

After deduction of $17,498,000, or slightly more than 50% of the operating income, for income taxes, aggregate industry earnings stood at $17,035,000 for the year, according to a study of monthly reports filed by the carriers with the Civil Aeronautics Board. (Northeast Airlines' December figures are not included in these totals, since the report for that month was not yet available.)

The profit after taxes represented 7.9% of the $214,134,000 gross operating revenues, compared with less than 4% of such revenues converted into net profits four years earlier, in 1941.

Income from passenger transportation constituted 77.6% of total revenues, as against 72% the previous year, while mail revenues dropped to 15.5% from 20.7%. Express-freight showed little relative change, remaining at slightly more than 5% of the total for both years.

Eight of the carriers would have netted profits for the year without any mail revenue, since their net operating incomes before taxes were in excess of postal payments received. These included American, Braniff, Chicago & Southern, Colonial, Delta, Eastern, Hawaiian, and PCA. Excepting Chicago & Southern and Colonial, all of these companies plus United were in this category during 1944.

Four airlines had final earnings of more than a million dollars last year, led by United with $4,668,000, American with $4,339,000, Eastern $2,126,000, and TWA $1,806,000. Two, Caribbean and Northeast, operated at a loss, compared with four in the red the previous year.

TCA to Extend Routes An Estimated 67% in 1946

Trans-Canada Air Line routes are to be extended an estimated 67% in 1946, according to H. J. Symington, president. The firm's annual report lists plans for the establishment this spring of a fourth daily transcontinental schedule; flights between Winnipeg and Edmonton via Saskatoon; a shortened transcontinental run across the Great Lakes; operations along the low St. Lawrence and direct flights between Halifax and Boston and between Port Arthur and Duluth. Most of the new operations are now awaiting the installation of adequate airport facilities. Further overseas operations in both the Atlantic and Pacific are planned by TCA soon.

In 1945, TCA daily flight schedules totaled 32,354, an increase of 23% over 1944. Revenue passengers increased 17%, air express increased 11% and air mail declined 8%. Operating revenues totaled $10,512,587, an increase of 14%. Operating expenses increased 15%. The company's suplus for the year was $32,772, as against $7,409 for 1944.

Financial Review

United Aircraft Shows Sales Near ½ Billion

United Aircraft Co., in its annual report showed 1945 sales of $484,310,503 compared with $743,527,683 in 1944. Net profits dropped from $15,562,335 in 1944 to $12,855,280 in 1945, due primarily to cancellation of war contracts after V-J Day.

The 1945 earnings represented $4.35 a share of common stock, compared with $5.37 a share in 1944. Unfilled orders as of Dec. 31 declined to $110,000,000, the lowest figure since 1938. Contract terminations amounted to $850,000,000.

Grumman Aircraft Engineering Corp., reported net profit of $5,713,528 for 1945, equal to $11.25 a share on common stock, compared with $18.89 a share in 1944. Sales and costs and fees under cost-plus-fixed-fee contracts in 1945 amounted to $236,846,862, compared with $323,749,331 in 1944.

Bell Aircraft Corp., reported 1945 net income of $4,465,297 after all charges, including provision for $13,900,000 for federal income and excess profits taxes, and $600,000 for contingencies. This was equal to $10.29 a share on common stock, and compares with net income of $3,156,975 or $8.01 a share for 1944.

Spartan Aircraft Co., Tulsa, reported sales and services totaling $16,137,504 for 1945. Net income was listed at $475,720, with an operating balance as of Dec. 31 of $593,674.

These companies reported dividends: **Consolidated Vultee Aircraft Corp.**, 50c a share for the three months period ended Feb. 28, 1946, payable May 15 to stockholders of record May 3; **The Aviation Corp.**, quarterly dividend of 56¼c per share on cumulative preferred stock, payable May 1 to stockholders of record April 15; **Aeronca Aircraft Corp.**, regular preferred dividend of 13¾c payable May 1 to stockholders of record April 15.

Financial Comment

by

I. W. Burnham, II

of

Burnham & Company

Members of New York Stock Exchange

NEW YORK had its first look at some of the new personal aircraft at the recent aviation show. Newspaper comment generally, was enthusiastic. Large crowds attended, and sales at the show are reported to have been as high as 200 planes.

In fairness to the manufacturers it should be stated that the show did not include any models by Stinson, Beech, North American, Waco, Cessna, and many others. However, among the new products of Republic, Ercoupe, Globe, Commonwealth, Piper, and others, one could get a pretty good idea of what is on the market.

Regardless of the public enthusiasm and interest in personal aircraft, it is difficult to visualize large sales in the East, where airports are 30 minutes to one hour from the center of town, where hangar rentals range from $25 to $75 per month, if available at all, and where airlines, trains and busses provide excellent service. A visit to nearly any airport reveals that the public is still fascinated by the age of flight and wants to take a ride or learn to fly. This will provide a certain amount of demand for planes from the operators, but the remainder must come from pleasure-seeking people with a fairly ample pocketbook.

The personal plane of today probably will meet its greatest demand in the Middle West, Southwest and West Coast, where distances are great and other forms of transportation are not quite as adequate. Farmers, salesmen and businessmen can make a better case for the practical need of an airplane when it can be kept on a farm or at an airport just a short distance away.

There is no question that spin-resistant planes and lower prices are added sales incentives which will increase the volume of buiness done by the personal plane industry. However, until more practical use can be made of personal planes, the volume of sales will remain restricted in

SUMMARY OF DOMESTIC AIRLINE REVENUES AND EXPENSES FOR 1945

	Total Operating Revenues	Passenger Revenue	Mail Revenue	Express-Freight Revenue	Total Operating Expenses	Net Operating Income	Net Income Before Income Taxes	Net Profit or Loss
All American	$ 637,138	$	$ 621,636	$ 6,996	$ 730,606	$ 93,468	$ 150,954	$ 74,215
American Airlines	47,415,999	37,307,290	5,981,081	3,244,405	39,239,890	8,176,109	8,171,125	4,339,458
Braniff	7,917,777	6,938,197	596,895	244,319	6,916,823	1,000,953	1,308,721	849,836
Caribbean	384,813	223,463	15,386	16,038	393,449	— 8,635	— 15,939	— 15,353
Chicago & Southern	4,848,822	4,325,156	277,237	169,395	4,582,476	266,343	291,190	168,890
Colonial	1,791,291	1,606,360	132,246	16,300	1,594,149	197,142	148,262	83,662
Continental	3,238,680	2,308,776	987,170	38,297	2,895,614	343,065	831,667	494,225
Delta	6,104,586	5,047,677	842,751	112,160	4,805,328	1,299,258	774,375	654,032
Eastern	26,711,284	22,682,020	2,444,492	1,230,007	18,691,863	8,019,421	8,338,217	2,126,294
Hawaiian	2,315,826	1,803,804	10,689	341,127	1,601,484	714,342	587,044	173,803
Inland	1,616,069	878,294	604,910	5,400	1,562,070	53,998	48,314	20,114
Mid-Continent	3,216,829	2,220,128	940,722	33,603	2,907,439	309,389	314,415	171,973
National	3,807,006	3,303,065	391,853	86,719	3,714,242	92,764	114,296	68,578
Northeast*	2,068,173	1,759,816	290,067	21,504	2,303,195	— 218,021	— 239,479	— 239,479
Northwest	12,196,651	10,039,607	1,648,729	404,331	10,720,347	1,476,303	1,548,503	928,708
Penn-Central	10,978,006	9,897,967	577,195	417,154	10,126,559	852,447	752,867	441,467
TWA	33,671,884	23,898,948	7,237,378	2,031,992	30,180,823	3,491,060	2,973,406	1,806,345
United	39,347,789	27,106,280	9,474,149	2,305,947	31,640,167	7,707,622	8,070,824	4,668,824
Western Air	5,848,281	4,778,318	636,074	135,872	5,438,266	413,014	365,230	220,266
TOTALS	$214,134,904	$186,272,368	$33,380,830	$10,831,263	$180,021,793	$34,300,042	$34,533,992	$17,035,860

*Northeast's totals are for 11 months, since December report is not yet filed.

comparison to that of the automobile industry.

Basically, the private plane of today is a good product. It has stability and speeds which vary according to the buyer's requirements, anywhere from 100 to nearly 200 mph. It is still relatively expensive to buy, maintain and operate. For the man with an income of less than $5,000 per annum, it will be just as expensive today as it has been in the past. Because of the upkeep the latter type of buyer may give up his plane just as quickly as he did prewar.

The answer to volume business in personal aircraft is not yet apparent. Possibly it is helicopters or roadable planes. However, for the present we still have what amounts to a manufactured refinement of the type of plane made before the war. The product is much better, but the buyer's problems are the same.

The financial community looks with considerable question on some of the rosy sales predictions for the 1946-48 period. It expects an intense competitive struggle for a limited market by a large number of manufacturers. Profits from this source are foreseen to be moderate and only the fittest are expected to survive. Recent and proposed security offerings of personal plane manufacturers are meeting a cautious demand and questioning interest. It remains to be seen whether this present cautious attitude of the finanial community is justified.

Leading Aviation Securities

(Courtesy of Burnham & Co.)

NEW YORK STOCK EXCHANGE

	1946 High	1946 Low	Range for 6 Days Ended 4-5-46 High	Range for 6 Days Ended 4-5-46 Low	Range for 6 Days Ended 4-12-46 High	Range for 6 Days Ended 4-12-46 Low	Two Weeks Net Change
AIRLINES							
American Airlines	953/4	71	923/4	86	923/4	87	— 21/2
Braniff Airways	345/8	255/8	273/4	261/2	273/8	283/8	— 13/4
Eastern Air Lines	125	98	1221/2	1121/2	125	115	— 13/4
National Airlines	347/8	241/2	271/2	257/8	27	25	— 15/8
Northwest Airlines	561/2	45	511/2	49	501/2	481/8	— 41/4
Pan American Airways	27	201/2	227/8	211/8	231/2	217/8	— 1/8
Penna-Central Air.	453/4	361/2	41	391/2	401/2	371/2	— 21/4
Trans. & Western Air	71	511/8	591/2	57	58	521/4	— 73/4
United Air Lines	541/4	411/4	461/2	441/2	457/8	413/4	— 33/4
Western Air Lines	35	27	313/8	29	307/8	283/4	— 15/8
MANUFACTURERS, ETC.							
Aviation Corp	143/8	93/8	123/4	111/2	121/4	115/8	+ 3/8
Aviation Corp. pf.	831/2	391/4	713/4	68	713/4	697/8	+ 31/2
Beech Aircraft	30	147/8	30	261/2	293/4	271/2	+ 25/8
Bell Aircraft	351/2	24	305/8	29	315/8	303/8	+ 21/4
Bendix Aviation	58	50	531/2	521/4	531/2	521/4	+ 7/8
Boeing	38	261/2	341/2	32	315/8	30	— 37/8
Cons. Vultee	335/8	265/8	291/2	273/8	293/8	271/2	— 3/4
Continental Motors	24	17	191/4	173/4	19	181/8	+ 1/4
Curtiss-Wright	121/8	73/4	81/8	73/4	8	73/4	— 3/8
Curtiss-Wright "A"	341/4	22	241/2	227/8	233/8	22	— 21/4
Douglas Aircraft	1087/8	901/2	100	953/4	971/4	941/2	— 43/4
Grumman Airc. Eng.	521/2	42	521/2	483/8	511/4	461/2	+ 31/4
Lockheed Aircraft	453/4	351/8	40	383/4	373/8	351/8	— 41/8
Martin, Glenn L.	451/2	371/8	431/2	421/4	423/4	41	— 1
National Aviation	283/4	223/4	265/8	251/8	267/8	253/4	— ...
North Am. Aviation	165/8	123/4	14	123/4	133/8	123/4	— 5/8
Republic Aviation	247/8	153/4	237/8	213/8	247/8	223/4	+ 1
Sperry Corp.	401/2	33	351/4	341/8	351/2	333/4	— 3/4
United Aircraft	373/4	273/8	301/4	273/4	315/8	287/8	— 3/4
Wright Aero.	106	89	947/8	89	93	93	— 1

NEW YORK CURB EXCHANGE

AIRLINES							
Colonial Airlines	43	26	304/8	283/4	30	26	— 41/4
Northeast Airlines	217/8	171/2	194/2	183/8	19	18	— 11/2
Pan American Air war.	14	91/8	105/8	93/8	105/8	99/8	— 1/8
MANUFACTURERS, ETC.							
Aero Supply 'A'	231/2	217/8	22	22	....	....	....
Aero Supply 'B'	73/4	53/8	71/4	65/8	73/4	63/4	— 1/8
Air Associates	233/2	15	201/8	201/8	19¼	19¼	— 11/4
Air Investors	83/4	81/4	83/8	81/4	81/2	81/2	— 1/8
Air Investors cv. pf.	....	....	....	....	....	....	....
Aircon Mfg.	171/2	111/2	131/8	12	....	....	....
Aireon Mfg. pf.	223/4	141/2	17	161/2	127/8	123/8	....
Aro Equip.	271/2	21	231/8	21	167/8	161/8	+ 11/8
Bellanca Aircraft	91/2	61/8	71/2	7	223/4	211/8	— 21/4
Breeze Corp.	311/2	217/8	30	28	73/4	73/4	+ 1/8
Brewster Aero.	51/2	47/8	53/8	51/8	303/8	293/4	+ 13/8
Cessna Aircraft	101/8	81/4	91/4	85/8	53/8	51/4	+ 1/8
Fairchild C. & I.	177/8	133/8	16	151/2	87/8	85/8	— 1/8
Fairchild E. & A.	83/8	53/8	75/8	63/4	161/2	155/8	....
Fairchild E. & A. pf.	115	78	1061/2	97	8	73/4	+ 1/2
Irving Air Chute	131/2	11	113/4	11	110	1031/4	+ 7
Northrop Aircraft	151/2	107/8	145/8	133/8	117/8	113/8	+ 1/8
Piper Aircraft	151/4	75/8	117/8	111/8	151/2	143/8	+ 7/8
Roosevelt Field	67/8	51/4	51/2	51/4	113/8	111/8	— 1/8
Ryan Aero	101/8	73/4	81/2	81/2	51/4	51/4	....
Solar Aircraft	267/8	173/4	263/4	24	81/2	73/4	— 1/2
United Aircraft Prod.	291/2	225/8	233/8	225/8	387/8	253/4	+ 1
Waco Aircraft	95/8	61/4	81/8	8	245/8	234/4	+ 1
					81/4	77/8	+ 1/8

OVER-THE-COUNTER

	April 5, 1946 Bid	April 5, 1946 Asked	April 12, 1946 Bid	April 12, 1946 Asked
AIRLINES				
Air Cargo Transport	63/8	63/4	63/4	6
Alaska Airlines	103/4	111/8	103/8	107/8
All American Aviation	141/4	143/4	131/2	14
American Overseas Airlines	69	73	72	76
Chicago & Southern Air Lines	283/4	293/4	281/2	291/2
Continental Air Lines	244/4	251/2	231/2	241/2
Delta Air Lines	52	54	51	53
Expresso Aereo	91/2	93/4	93/8	97/8
Inland Airlines	104/2	111/2	101/2	111/2
Mid-Continent Air Lines	181/2	191/4	181/4	19
TACA Airways	173/4	181/2	173/4	181/2
MANUFACTURERS, ETC.				
Aeronautical Products	83/8	83/4	81/8	85/8
Aeronca	123/8	123/4	141/8	141/2
Aircraft & Diesel	23/8	23/4	21/8	25/8
Airplane & Marine	19	23	19	23
Central Airports	11/2	2	11/2	2
Columbia Aircraft	11/2	....	11/2	....
Continental Aviation & Eng.	31/8	31/2	35/8	4
General Aviation Equip.	41/2	51/2	41/4	5
Gladden Products	3	33/8	31/8	31/2
Globe Aircraft	63/4	71/8	61/4	65/8
Harlow Aircraft	1/2	3/4	3/4	3/4
Harvill Corp.	37/8	41/4	31/2	37/8
Interstate Aircraft & Engine	131/2	141/2	14	15
Kellett Aircraft	5	51/4	45/8	5
Liberty Aircraft	271/4	271/2	271/2	28
Luscombe Airplane	31/8	33/4	31/8	33/8
Monasco Mfg.	6	61/4	71/4	73/4
Pacific Airmotive	15	153/4	15	153/4
Pollak Mfg.	141/2	153/8	141/2	153/4
Standard Aircraft Prod.	41/2	43/4	41/4	41/2
Taylorcraft	61/2	7	65/8	71/8
Timm Aircraft	33/8	33/4	33/4	31/2
McDonnell Aircraft Corp.	81/8	93/4	8	83/4
McDonnell Aircraft Corp., pf.	....	....	....	....

Airlines May Fall Prey To State Tax Agencies In 1947 Legislation

There are indications today that the airlines in 1947 will fall prey to state tax commissions in the search of new sources of tax revenue.

The latest move in this direction was instituted recently by the Colorado tax commission which called representatives of four interstate airlines to a preliminary hearing to discuss the question of assessments, based on the miles flown across the state and revenues derived from the carriage of freight and passengers in Colorado.

John R. Seaman, chairman of the commission, said the tax commission is entering upon a program of assessing the airlines on the grounds that they are public utilities. Taxes derived from these sources would be split among the counties affected by the airline operations. Seaman said. United, Continental, Braniff and Western are the airlines involved.

Recently the airline industry witnessed the bold attempt made by the Virginia legislature to pass a six cent per gallon gas tax based on fuel consumed in flight over the land and waters of Virginia. The bill actually passed the lower house but was defeated in a senate committee.

The airlines now know that this was not an ill-advised attempt to obtain new tax revenues. Recommendations that the airlines be taxed came from the state chamber of commerce, based on studies which had been made by a special committee to investigate new tax sources.

The committee recommended that the state take "immediate steps to develop a system of central assessments for airlines comparable to that already in operation for steam railroads and other public service corporations."

At least six of the 13 state legislatures which met this year considered bills providing some form of taxation of the airlines. Some were gas tax bills, others provided for a tax on transportation and in Mississippi a bill was introduced to levy an *ad valorem* tax on the airlines.

All of this points up to the fact that next year the airlines will have to meet the tax issue in scores of states. In the meantime the carriers, through the Air Transport Association, will seek to obtain early hearings on the Bulwinkle bill, H. R. 3446, which would prescribe an allocation formulae for the distribution to the states of the taxable base for air carriers engaged in interstate commerce for taxes on property, capital stock and net income. A clear-cut federal policy on airline taxation is sorely needed, airline executives assert.

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